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THE  
Alienist and Neurologist

A QUARTERLY JOURNAL

—OF—

SCIENTIFIC, CLINICAL AND FORENSIC  
Psychiatry and Neurology.

*Intended especially to subserve the wants of the  
General Practitioner of Medicine.*

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"Quantum ego quidem video motus morborum fere omnes a motibus in systemate nervorum ita pendent, ut morbi fere omnes quodammodo Nervosi dici queant."—*Cullen's Nosology: Book II., p. 181—Edinburgh Ed. 1780.*

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VOLUME XII.

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PUBLISHED AND EDITED BY

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And an associate corps of collaborators.

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No. 1.

ORIGINAL CONTRIBUTIONS.

**Observations on the Criminal Status of  
Inebriety.**

By T. L. WRIGHT, M. D., Bellefontaine, Ohio.

THERE is a wide difference of opinion, amongst thinking men, respecting the criminal responsibility that should commonly be exacted from drunkenness. The law is pretty well determined in its doctrines and decisions on the subject; yet there are many persons, both in the medical profession and elsewhere, who strongly doubt the rightfulness of many of the legal positions assumed in relation to that question.

"Hallucinations and illusions, which are a common effect of drunkenness, do not seem to constitute insanity when so induced."\*

This gives an inkling of the spirit in which the law deals with the crimes of alcohol. Apparently different is the charge following: "If you think there was a distinct disease caused by drunkenness, but differing from it, and that hence he did not know the act was wrong, you will find a verdict of not guilty, on the ground of insanity."†

"The man who is convinced that he is surrounded by

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\* J. R. Mellraith, Barrister at Law, Middle Temple, London.

† Justice Stephen's Charge.—*Rex V. Davis*, Newcastle, 1881.



enemies whom he perceives before him, and hears threatening him (through *hallucinations*), will endeavor to injure them, to strike them, to kill them; and should he, through *illusion*, convert the persons of attendants into those of imagined enemies, the most disastrous results might ensue from this error. We are beginning to be aware that there are certain extravagant actions hitherto inscribed amongst the annals of crime, which might be referred to insanity, and especially to hallucinations.”\*

Drunkenness from alcohol will receive attention in the present discussion, exclusively. Intoxication appears in various forms, all having prominent characteristics peculiar to themselves. Some of the most obnoxious and disabling qualities of drunkenness from alcohol however, are wholly absent in the inebriation that arises from the use of other toxic agents. Special efforts therefore, to distinguish between the intoxication from haschisch, opium, chloral, etc., on the one hand, and the drunkenness from alcohol on the other, are not here necessary.

Nobody has ever satisfactorily defined insanity. For present purposes it may be loosely described as a substantial aberration of mind more or less continuous, involving one or more cardinal particulars, and consequent upon the operation of morbid or toxic forces that are independent of volitional control. In this view of the case, anyone who is drunk from alcohol is, while the drunkenness continues, truly insane.

The law recognizes this fact, and indeed insists upon it. There is, actually, founded upon the uncontrollability of the mind in drunkenness a legal inference or *dictum*, to the effect that *drunkenness is no defense for crime*. It is true that this has the appearance of a most singular inconsistency, when it is remembered that the law is also positive in its declaration that “where there is insanity, there can be no crime.”†

But the legal conclusion is reached by a process of

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\* Briere de Boismont; tr. by Hulme, pages 402, 403.

† Judge Noah Davis, in “Med. Jurisprudence of Inebriety,” page 129.

reasoning. It involves an assumption which is incorrect, at least in a vast number of instances. "The law has settled that a drunken intent is just as guilty as a sober one."\* There is no pretense that the law has discovered, or proven the equality of the sober and drunken intent; it has simply "settled," in some way peculiar to its own methods, that point. Difficult questions are undeniably settled under favoring circumstances, very often indeed, by the exercise of unlimited power, without much consideration of the merits at stake. But just why the law in civilized and enlightened countries should be permitted to settle any great moral question by a show of physical force is not quite clear. But the law claims that the drunken man is a "voluntary madman." This is a seeming contradiction in terms. A madman is commonly supposed to have been bereft of volition not only in getting mad, but in being mad. There is something beyond human nature in the idea of voluntary insanity—that is insanity brought on through an express purpose to bring it on, as though a mind could, *being in a sound condition*, use its volition to destroy its volition. The assumption is a very questionable one, that a mind, being sound, ever voluntarily places itself in a condition in which it *knows* (beforehand) that it cannot control itself.

The perfect mind cannot conceive of itself as truly and sensitively insane. The drunkard does not believe that he *cannot* control his actions when drunk—although he really cannot. Nor indeed can anyone, judging from drunken actions and exhibitions in others, conclude that, in himself, similar exposures will of necessity take place should he become drunken. The sober *ego* is wholly different from the drunken *ego*. The body is the same—one, but the minds are, for practical purposes, two. A sane mind may speak for another mind also sane, or for itself in the future with some degree of assurance. Their faculties are on the same plane of consciousness,

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\* Ibid. page 130.

both by reason of possessing similar powers, and by reason of a similar presentation of surroundings. But a sober mind cannot speak for, or conceive of itself as drunken. The powers of the two states are unlike, and the surroundings are, as presented to them, also unlike. Their planes of consciousness are different and wholly distinct from each other. The minds act as two (one of them being insane); and they can no more interact, or interpret each other, than a sound mind\* in one person and one age can interact with and interpret an unsound mind in another person and in some other age.

When alcohol is taken to fortify the criminal intent in the commission of offenses, it does not act by directly strengthening a fierce and truculent nature. Alcohol never strengthens, never brightens anything, or any faculty. It always weakens and destroys. It degrades directly all the powers of the mind. But it does not do this *equally*; and thus it happens that while the purpose or will in the commission of crime may be in reality diminished, *abstractly*, by drunkenness, still it may be *relatively* intensified.

The explanation of the manner in which alcohol fortifies (relatively) the criminal purpose is simply this: the grosser faculties and the animal propensities of the physical man are more fundamental and immovable than the finer sensibilities of his moral organization. Hence, while the nervous inhibitory phenomena which alcohol always produces exert very little effect upon the brutish instincts of the mere animal, they very seriously depress and deaden the moral feelings and sentiments. Thus criminality becomes practically relieved of all obstruction—all protest from conscience. "The paralysis of alcohol destroys the very elements of compunction, modifies the natural relations of the moral feelings, depresses the inhibitory powers, and in various ways implants in the human system new and strange impulses and characteristics." \*

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\* See ALIENIST AND NEUROLOGIST, St. Louis, July, 1890, page 299.

A distinguished authority says in a recent paper: "A long and continued course of poisoning the brain with alcohol will often destroy its power of inhibition in even the strongest and most normal brains, and with the best heridity. Men of splendid powers of self-control have, by continuous drinking, or opium taking, lost their controlling power so as to disregard the common decencies of life. Their word could not be believed, and they became as regards control far below the level of a well-trained dog."\* The same author says further: "It is now pretty generally recognized that, as the moral faculties were the last to be evolved, they are commonly the first in brain disease to disappear." Again, this writer declares: "It should never be forgotten that alcohol poisons as well as exhilarates. It affects more strongly the highest brain function of emotion and control."

The formula of the law of America respecting the criminal responsibility of drunkenness has been stated as follows: "He who, while sane, puts himself voluntarily into a condition in which he knows he cannot control his actions, must take the consequences of his acts—and if he is sufficiently sane to conceive the perpetration of the crime, he must be assumed to have contemplated its perpetration."† The same authority remarks: "The medical view that irresponsibility should follow where insanity exists has nowhere been conceded by the law." And another legal writer declares: "A voluntary demon who has produced a condition in himself by his own act, which is not the disease known as insanity, is not excused."‡

There is valid objection to the formidable-appearing phrase—*voluntary demon*. There are no demons abroad in the land, voluntary or involuntary, although there is no lack of bad men. The term was introduced by Lord

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\* T. S. Clouston, M. D., Lecturer on Mental Diseases, Edinburgh University, etc.—"Diseased Cravings, Dipsoomania and Paralyzed Control." *Quarterly Jour. of Inebriety*, July, 1890

† Hon. Clark Bell.—"Jurisprudence of Inebriety," pages 7, 8.

‡ Judge Noah Davis—"Jurisprudence of Inebriety," page 130

Coke, in an age when evilly-inclined persons were presumed to come, through choice, under the guidance of certain vagabond devils. These individuals were supposed to be incapable of self-control, but yet responsible for their acts by reason of their associations—in contradistinction to *lunatics*, who, while incapable of self-control, were *not* responsible for their acts. The expression, divested of its Latinized form, is still in use, for the seeming purpose of bolstering up a distinction where there is no difference.

The voluntary demon is either incapable of self-control, and therefore truly insane, or he is merely a criminal who refuses to control himself when abundantly able to do so. Perhaps if some of the time-honored fictions of the law were swept away, Medicine and Law would have less difficulty in agreeing upon the principles upon which criminal responsibility connected with mental alienation, should rest. *Voluntarius Dæmon*, simply signifies—a man who is drunk.

But one great fact remains certain and beyond dispute: the law is right when it assumes that a man drunken from alcohol cannot control his actions.

English laws relating to the responsibilities of the drunken state are about the same as American. The same difficulties are encountered in explaining the differences in the criminal responsibility of a man who cannot control his actions from drink, and of a man who cannot control his actions from other causes. It also becomes apparent, that in pursuing the imperceptible and impossible refinements presented in the investigation, the whole subject is apt to escape from the grasp of the imagination, and the mind is bewildered in a maze of unsubstantial and unsatisfactory figments of the brain and fictions of the law.

Coke upon Littleton says: "As for a drunkard who is *voluntarius dæmon*, he hath no privilege thereby, but what hurt or ill soever he doeth his drunkenness doth aggravate it." That drunkenness can aggravate the guilt of homicide, for example, is a strange conceit. A man whose motive

is robbery, deliberately plans and executes murder—and chuckles with glee and satisfaction upon the success of his undertaking. Another man, unable to control his actions through drink, is impelled, without rational motive or ulterior design, to commit homicide, and his subsequent remorse is sincere and pitiful. Which of these two criminals should be esteemed the more guilty? But a man perhaps gets drunk to enable him to commit a crime that he has formulated in his mind while yet sober. Such criminality cannot be attributed to liquor: it is only an instrument in the commission of the unlawful deed—just as a knife or a bludgeon might be.\*

A case from Vermont is noted wherein it is said: "Voluntary drunkenness will not protect a person from liability for torts, or for crimes committed while in that situation." The reason given for this decision is to the effect, that some person might pretend to be drunk and commit crime; and to head him off, punishment may be imposed upon some other person who really gets drunk and commits crime. The language employed is: "In respect to torts, sound policy forbids that intoxication should be an excuse for crime; for if it were, under actual or feigned intoxication the most atrocious crimes might be committed with impunity." Attention is directed to the obvious lameness of this explanation, induced by putting "actual" and "feigned" intoxication in one and the same category.

It is difficult to see why this doctrine may not be applied to insanity as well as drunkenness. By inflicting the death penalty upon insane homicides, an effectual stop would be put to the proceedings of those who feign insanity in order to commit murder without risk of punishment.

Judge Hale says: "By the law of England such a person shall have no privilege by this voluntary contracted madness, but shall have the same judgment as if he were in his right senses." "If indeed," says Holroyd, J. "the

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\*Joseph Parrish, "Alcoholic Inebriety," pages 24 to 28.



infuriated state at which he arrives should continue and become a lasting malady, then he is not amenable." Continue how long? Lasting until when? At what period does the temporary madness merge into the permanent madness—and what is the abstract difference between their capacity of responsibility while actually present? \*

In Germany certain superstitious people believed that ghosts of slain troopers were seen from time to time in the night. They were said to appear in uniform and on horseback, and caused great consternation amongst the peasantry. Two laboring men, fatigued with work, seated themselves and partook of some wine they had with them. They became much intoxicated and excited by drink; and they imagined they were surrounded by Swedish cavaliers. They carried sticks with them, as was their custom, and thinking they were battling the Swedish horsemen, they began to strike and knock each other until one of them disappeared. The other, taking up his friend's hat, and thinking it was a helmet of the enemy, carried it in triumph to the home of his companion, who he thought had gone on before him. As he approached the house he cried out: "The devils wanted to take me away, but I have given one of them such a dressing with my stick that they will not come again." He had in reality killed his friend by a blow on the back of his head, fracturing the skull.

"The next day, filled with poignant grief, all he could say was that, having continued to drink with his friend, it seemed to them that they were surrounded by specters on horseback in their blue and red uniforms; and being convinced that evil was about to happen to them, they resolved to defend themselves with their sticks; that, consequently, they both attacked the specters, having heard that when fearlessly confronted they would betake themselves to flight. In the midst of the struggle he

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\* For many facts bearing on the responsibility of drunkenness in criminal cases, credit is given to a paper on "The Law Relating to Drunkenness," by J. R. McIlraith, London, Eng.



missed his companion, and the specters seemed to have disappeared."

It is interesting to know that the German laws in regard to the crimes of drunkenness are on a par with those of England and America. The case just described was referred to the legal faculty of the University of Helmstadt. The decision was that: "If any one becomes voluntarily intoxicated, and in this state commits a crime, he must be responsible for it; for the loss of his reason is due to his own act." The man was sentenced to ten years hard labor.

That the above case was far better adapted for review by the medical faculty than the legal, the following enlightened criticism by a distinguished and competent authority, fully substantiates: "If at the time and in the country where this event took place, the doctrine of hallucinations and illusions had been better understood—and the power of those which accompany drunkenness more fully appreciated, the punishment would probably have been less severe."\*

The destructive effects of alcohol upon the human constitution may be viewed from an endless variety of points of observation; for these effects are universal. Alcohol assails every element of human character, and every organ and atom of human structure.

The moment alcohol begins to impress sensibility, a material change is perceived in personal aspect and demeanor. The eye for instance is brightened, while the movements become alert and restless. The countenance is, perhaps, at first half smiling, with an arch expression. These appearances may change, and indeed they do change in the most radical and surprising manner, as the period of drinking is prolonged. It is important to know, however, that neither the appearance of a drunken man, nor his movements, ever represent a calm, rational, sound mind.

What is the cause of this brightened eye, this cute and

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\* *Brière de Boismont*—"Hallucinations," Chap. XIV.—In relation to Medical Jurisprudence, pages 25, 26, 27. Columbus, Ohio, 1860.

cunning look, these airy movements of early drinking? Has alcohol aroused and intensified intellectual vigor? Has it imparted to mind augmented strength, and scope and brilliancy? When men drink to exalt the mental character, to enlarge the mental horizon, to give steadiness and force to mental exposition, are they wise?

The depressing influence which alcohol exerts upon nervous sensibility of every kind by virtue of its anæsthetic, or benumbing properties, is well known and universally recognized. It is not essential to the present discussion, that the injuries inflicted by alcohol upon the nutrition, the oxidation, and the trophic integrity of the organism should be considered. It is sufficient to say that alcohol is sure to debase and deaden sensibility in every department of the nervous system. This of course applies to the bad impression of alcohol upon common sensation, and upon the perfection of the several senses. It is an admitted fact that the acuteness of all the senses is not only dulled by alcoholic influence, but their completeness otherwise is seriously impaired.

As sensation is, so ordinarily will perception be. If things are presented to the mind in a dim and incomplete manner; the mental pictures corresponding will be dim and misleading. Should perception be received as through a haze or fog, the resulting ideas in the mind will partake of the character of such perceptions—they will be indefinite and incapable of leading to rational convictions. If things of the exterior world are pictured upon the mind, through sensation and perception, in false and distorted proportions, they cannot be conceived of in their true and natural aspects. They will appear like huge and and curious phantasms—strangers to the experiences of normal life, imposing false beliefs upon the mind and leading to inconsistent and irrelevant thought, and speech, and conduct.

Now alcohol, through the distorting operations of a nervous system deranged by it, addresses the mind through the senses, in the very way herein described. A

perception is perhaps presented, that is a caricature of nature. The co-operation of the several senses—also testifying wrongly and morbidly—confirms the mind in erroneous conceptions. The ludicrous pictures of the drunken imagination provoke mirth. The phantoms excite surprise. The imperfections and haziness of sensation, exaggerate the ideas beyond what is reasonable and true; while a comparison of alcoholic travesties with allied rational concepts in memory gives rise to the most extraordinary mental images, and begets no end of silly quips and drunken nonsense. The newly drunken man is at one and the same time in a condition of unbounded amusement and surprise. He is in a new and pleasing, though unreal and fantastic world.

A man recently drunk is not content to keep his strange thoughts and feelings to himself. He takes pains to seek an audience before which to rehearse his paradoxes, his *outré* comparisons, his mental and moral abortions and absurdities. His friends laugh at his ridiculous speech and clownish ways, while others despise them. But everybody perceives that he is drunk, and holds him in derision or contempt. If he is poetically inclined, his written thoughts consist largely of mysterious utterances and allusions—professedly adumbrations of the infinite, the eternal, the Divinity itself. He professes to be equally familiar with God and Satan; and pretends to be quite at home either in heaven or hell; while the feeble admirers of the “perilous stuff” weary their brains in vain endeavors to fathom a meaning where there is no meaning. Drunken literature, eloquence, philosophy, statesmanship, are all involved in similar fogs and mists; or if they ever emerge thence, they spread and extend, like the very gases they are, throughout the known, and unknown universe too, for that matter. To rightly appreciate (not understand) the fustian of drunkenness, the observer must himself be drunk; for its real significance will forever elude the healthy senses and rational understanding of every human being.

And all this is the sum total and true character of the "brilliancy" with which alcohol invests the minds of those who partake of it. Will it be claimed that this implies a real and substantial increase in intellectual power and mental activity?

Knowledge acquired in drunkenness is necessarily imperfect, distorted, deceptive. The drunken man perceives things in false lights and in unnatural relations. He cannot be a truthful witness; his moral nature is inhibited, and he don't care for truth; while his intellectual capacity is so deteriorated by the toxic properties of alcohol, that he is incapable of perceiving truth.

Language is usually a reflection of the mental condition. The drunkard is full of absurdities and extravagance in his expressions, because his conceptions are indefinite, incongruous and incoherent. He speaks perchance the language of exaggeration, for his ideas are stilted and grown out of rational bounds, through the deceptions inseparable from an indistinct and imperfect sensibility. If he becomes sententious and tries philosophy, his expressions are simply iridescent bubbles, which the point of a little analysis or criticism will effectually and suddenly burst. Should he assay the *rôle* of oratory, his mouthings and high-sounding periods, so far as they are derived from alcoholic influence, will be perceived, on examination, to be pure and absolute emptiness. His pretentious efforts in that direction clothe no useful thoughts, and represent no truly sublime emotions—all is maudlin, mere echoing emptiness.

The drunken mind is, then, an incapable mind. Yet it has ruled nations; spoken with authority and audacity; declared war; fought battles—but always, beyond a reasonable doubt, to the detriment of mankind, and the substantial injury of human rights. The insolence of alcoholic ruffianism habitually overcomes the modesty of true merit. This is about all that need be said respecting the mental *status* of recent intoxication. Its literature, its statemanship, its eloquence—all that it

has been or can be, are wretched shams and false pretenses.

All this refers mainly to drunkenness in its primary and least offensive stage—when, like a raree-show, it is adapted to attract crowds of laughing and shouting idlers and vagabonds. Of its later phases—when the prolonged effects of alcohol have saturated the organism, and overpowered the brain, by evolving a crowd of new and strange poisons—there is not here space to speak at large. Of those who would study the lessening intellect and departing morality, of the last stages of prolonged drinking—who would look upon the horror and remorse, the starvation and murder of alcohol—the attention is directed to the works of authors who have systematically treated of these subjects.\*

These things do not look as though alcohol could ever be useful in *strengthening* the mind. In truth, drunkenness, like insanity, is helpless. It is a condition beyond the sphere of the will, because it is inaugurated and sustained by physical causes, over the operation of which mind can have no authority. The insane man is dominated by a local disease, the character of which he cannot truly know. Drunkenness, likewise, is the effect of a toxic agent, which cannot be modified in its nature by any mental effort whatever. The drunken man always believes in *himself*. To his mind there is no such thing as doubt. The man with an insane delusion has the same characteristic—every morbid belief has to him the force of demonstration—anything contrary to it being inconceivable to his mind. Sane people doubt, not drunkards or lunatics.

Thus, unmanageable mental incompetency is ever present in the drunken state, and it varies in degree as intoxication is more or less profound; it being implied, of course, that consciousness is not extinct. The mind is sure to be perceptibly impaired whenever the alcoholic influence is sensibly present.

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\* See, especially, the books of Richardson, Kerr, Parrish, Carpenter, Kowalewsky, and a little work of the writer's, entitled "Inebriety;" also the writings of Crothers, Clouston, Hughes, Mason, Mann, Baker, and others.

The mental aberration of drunkenness, however, is not dependent exclusively upon faults of nervous sensibility, and the direct deterioration of nervous function. True, the impairment of the senses, both in respect to completeness and accuracy, is in itself sufficient to cause serious disturbances in thought and conduct. But in drunkenness, to the defects of sensation and perception already noted, there should be added instability of movement, and inco-ordination of function amongst the several great primary departments of the human organism. If the misinformation and the false beliefs, arising from imperfection in the perceptive faculties, mislead the judgment and entice the mind astray, how much more do misconceptions conduce to mental confusion, when they are themselves misapplied through an imperfect interaction of the motor, and rational, and moral powers? To accomplish the behests of individuality, to complete the impersonation of self, there must be symmetry of function—unity of purpose, both in regard to time, and in regard to events, between these three component elements of human nature, namely—movement, reason and motive, or, as commonly written—body, mind and soul.

The defects in muscular power and movement in drunkenness are obvious to the most casual observer—and so, indeed, are the defects in ordinary sensation. It is perhaps needless to say that similar incompetencies beset the nervous system elsewhere, so that there is impossibility of common consent, and of united effort on the part of the chief departments of the organism, in effecting any rational design.

When intoxication is present, and the power of alcohol is in authority, there is an absence of normal co-ordination in the functions of the main exponents of human character. The mind and hand, for example, do not readily respond to the calls of each other. The dormant sensibilities fail very often to notify the intellect of the necessity of its co-operation with motor or muscular activity. The torpid and lifeless touch will perhaps press



with unconscious force upon the trigger; and, the senses being incapable of alarming the rational faculties, or of receiving alarm from them of the impending danger, the weapon is unexpectedly discharged, and possibly a tragedy is enacted.

The inhibitory power exerted by alcohol on the acuteness of sensibility, and of the moral nature, is very likely to withdraw the supervision of that nature from conduct. Thus, the animal instincts and brutish propensities are left free to revel in vicious and lawless ways, unrestrained by their natural monitor.

A noted criminal case in St. Louis, Missouri, affords an example illustrating the doctrines herein set forth. A young man who was in the habit of procuring jewelry from his grandmother in order to pawn it for means to buy liquor, on one occasion, when deeply intoxicated, and greatly disordered from prolonged drinking, placed his hands upon her person and abstracted her watch; he at the same time secured her finger rings. She was an aged and feeble woman, and suffered much from asthma. She died under this treatment, and the drunkard was horrified the next day when arrested and informed of the facts. These occurrences took place at night after the woman had retired. The old lady and her grandson were the greatest of friends, she being his kind refuge and protector when in trouble from drink.

While the moral sense of this man was probably latent, there is no likelihood that the act was prompted by malicious or even criminal motives. The component elements of the human character were in him distracted in their mutual relationships. There was absence of symmetrical activity between his mental, moral and muscular capacities. The motor system was materially impressed by the anæsthetic properties of alcohol. The muscular sense itself was dull and inert; and the muscular force employed was, without doubt, greater than was supposed or intended. The mind was unable to rightly measure the power of the grasp imparted to the hands.



In this case it is possible there may have been two defects in the co-ordination of function amongst the great distinctive constitutional powers; one being latency in the sense of muscular force, and the other, abatement or absence of moral sensibility. When circumstances do not point to criminal intent, such events as these are apt to be classified as accidents. But in truth they are not accidents. They are the inevitable consequences of mental impairment dependent upon the poisonous properties of alcohol. Unity of purpose and concurrence of function are thwarted or destroyed. The mental powers are depressed as well as deranged. No mind can foresee the occurrence of the so-called "accidents" of alcoholic incongruity of function, and no mental power can prevent them.

There is a peculiar state of mind called *trance*, that is not unusual in drunkenness.\* It may appear in the midst of a moderate indulgence in alcohol; although it is more common after deep potations. It is a condition not necessarily consequent upon alcoholic influences, although alcohol is a frequent cause of its appearance in certain constitutions. In alcoholic *trance*, consciousness is but partially influenced by the physical surroundings. It is in a great degree associated with certain states of mental abstraction, and with automatic life—the things of the life of common relation being blanks in memory when the trance state has passed away. Here is a mental situation wherein the fitness of things, as apparent to ordinary observation, is not clearly noted. It may be supposed, without violence to probability, that some glimmering of ordinary sensibility and life, mingling with the suggestions of a cotemporaneous automatic existence would arouse strange incentives and evolve unconscious motives greatly at variance with those of ordinary rational experience. It is certain that crimes, inexplicable in atrocity and motive, are not infrequently perpetrated by drunkards during the trance state.

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\* Great credit is due to Dr. T. D. Crothers, of Hartford, Conn., for his researches and valuable suggestions upon the subject of *Alcoholic Trance*.

The precise rise and progress of the criminal intent—the actual incitements to crime and murder that are associated with the singular condition of the mind known as *trance*, cannot probably ever be known. For, upon “awaking,” that is, when consciousness again becomes normal, little, and sometimes no remembrance of its trance condition is retained. It is highly probable, however, that both imperfection in the perceptive faculties and absence of co-operation in the mutual interaction of the predominant forces of the human organism unite in producing unnatural and dangerous courses of thought. Here there is no normal consciousness, no rational intent, no responsibility.

1. Drunkenness appears to be true insanity.

2. It is an insanity augmented and intensified by several efficient causes of mental disorganization operating together, and in the same direction.

3. It is an insanity unbroken by lucid intervals, for there is no abatement of the toxic impression of alcohol as long as that poison remains in the system.

4. Drunkenness is not able to hide itself, or even disguise its own features—in other words, the drunken man cannot control his actions.

5. The law declares intoxication to be a crime, yet it affords and protects facilities for unlimited intoxication.

6. The law declares that criminal courses shall not excuse other crimes growing out of them; yet it provides the conditions for the establishment of criminal courses.

7. The public in its aggregate capacity knows that drunkenness is unable to control its own actions—yet by its permissive attitude respecting drinking resorts, it panders to the morbid, or, possibly, vicious appetite for intoxication—thus becoming itself materially responsible for the crimes of alcohol.

8. When the law declares that *voluntary drunkenness is no excuse for crime*, the word “voluntary” becomes amenable to criticism. When the dipsomaniac, or even the vicious idler, is invited, lured, seduced and beguiled

into drinking shops by the blandishments and the sensuous attractions of such places, the public, under whose auspices they are conducted, is a party to the inevitable results. The diseased or the perverted will, yielding to temptation under such circumstances, should not, in fairness and honesty, be esteemed to act with freedom; to act *voluntarily*.

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# Insanity in the Colored Race in the United States.\*

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By A. H. WITMER, M. D., Washington, D. C.

THE term colored is used because it is probable that there are no full-blooded African negroes in the United States at this time, at least none who were held in bondage; and as a class they cannot be called negroes, for the race is now a mixed one, and the term colored race seems to be the most comprehensive, and is the one generally accepted and used. We limit our consideration of insanity in the race to the United States of North America, since in this country alone, so far as I know, has the subject received the attention of the statistician, because I have not been able to discover that the disease has obtained recognition among the native African negroes.

Previous to the Civil War of 1861-65, the subject received but little public attention, and many intelligent people, native to the Southern or slave-holding States, who owned slaves, have told me that while they had known of colored idiots and epileptics before the war, they never had heard of an insane colored person. This assertion can be readily believed when the federal census of 1860 reports only 766 colored insane in the United States out of a population of 4,441,830.

The first public provision for the care of colored insane persons was made in connection with the Government Hospital for the Insane, at Washington, at that time under the direction of the distinguished alienist, the late Dr. Charles H. Nichols, who by authority of the national congress, erected and furnished a separate building for them, far in advance of the needs of the time, and which, though several times enlarged since then, is still used for its original purpose. Apparently the only other effort in the direction of providing for this class of defectives, was

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\* Read at the Tenth International Congress at Berlin, August, 1890.

that made in 1856 by the trustees of the Mississippi State Hospital, and renewed by them and their philanthropic superintendent, the late Dr. A. D. Williamson, in 1858, who in his report to the governor of the commonwealth, while urging the necessity of increased accommodations for the insane, said, "I cannot in this connection fail to call attention to the wants of the blacks. It has been the pride and boast of Mississippi, and I might say of the entire slave-holding region, that the negro receives all proper care for the alleviation of his physical diseases, but it is a lamentable fact that but few, if any of the States, have as yet made any provision for taking care of those among them who might become insane."

The Government Hospital for the Insane was opened in January, 1855, to receive the insane of the army and navy, together with the indigent insane of the District of Columbia, with others indicated in the organic law, and the records of that institution show, that during a period of seven years and six months, from that time to June 30th, 1862, the year in which emancipation was proclaimed, 58 colored patients (27 males and 31 females) had been treated, and that out of an estimated population of 16,000, 21 (5 males and 16 females) remained under treatment at the latter date.

The remainder of the 766 colored insane reported by the census of 1860 were distributed among the several States, and such as were slaves and were not cared for in hospitals, were in most instances, specially provided for in separate cottages, in the slave colonies of the plantations, and were under the observation of the physician employed by the owner to look after the bodily ailments of the slaves.

Having given, as accurately as can be ascertained, the number of colored insane in the United States just before the emancipation of the race, and having referred to the attention the subject of their care and treatment had received previous to that date, we come to the most

eventful period in the history of the recently liberated people, namely, the last years of the Civil War and those immediately following the cessation of hostilities. Unfortunately, during all this trying transition period, which extended over an interval of about five years, there are no reliable statistics to indicate how many colored insane there were in the country or what treatment they received. Immediately after the war there was naturally an increase in the colored population of some of the Northern or non-slave-holding States, particularly those on the border, but the increase in the number of the colored insane attracted no particular attention, except in the State of Ohio, which in 1866, through the efforts of the late Dr. O. M. Langdon, then superintendent of the well-organized hospital for Hamilton county, situated near Cincinnati, was the first State to make separate provision for insane people of color in connection with the Hamilton county institution, known as Longview.

The reports of the State institutions of such former slave States as were financially able to at once re-organize their hospitals, evince a great desire on the part of the trustees and the superintendents to increase the capacity of their buildings for the especial purpose of accommodating this new class of defectives and dependents. They also show that a fair proportion of the recent slave population enjoyed the benefits of care and treatment in these hospitals.

I have reviewed with painful interest these reports of my older brethren and colleagues, and I cannot refrain from saying here, that the complete history yet to be written of the subject under consideration, will be faulty and biased if it fail to accord due credit and honor to the humane and noble men of the medical profession in the late slave-holding States, who having selected psychiatry as a specialty, devoted mind and body to the work, and heroically labored, sometimes without remuneration, to alleviate the sad condition of the insane in their communities during the years succeeding emancipation,



without regard to the previously existing social conditions.

The national census of 1870, which was notoriously defective and incorrect, reports out of a total population of 4,880,009 colored people, 1822 insane. This number must have been much below that actually existing, for the reports of the different State hospitals, and those of the greater municipalities, show that a large proportion of these were at that time under treatment; and yet, the trustees and superintendents of the hospitals in the States which had so recently been devastated by war were appealing to their legislatures to provide for the enlargement of their old institutions or the construction of new ones sufficiently commodious to "give the now ill-lodged lunatics of color a housing and treatment," and enable them to accord deserved relief to those "who now languish like felons in our jails." Sentiments of humanity such as I have just quoted are found in many reports of this period. We learn also from them that the hospitals of the slave States, were all organized on a fair working basis, and that they were supported as liberally as the crippled resources and finances of that section would permit. It appears that the colored insane were admitted as vacancies occurred in the quota of the counties in which they resided, cases of recent origin receiving first consideration, and next, those in the order of the date of application for admission.

Virginia was the only State that was able, with some aid from the national government, to maintain a separate establishment for the colored insane near the city of Richmond. In those States where it was impossible for financial reasons, to organize and maintain separate institutions for the colored insane, and where they were admitted to the State hospitals, there was no mixing of races. This was provided against by assigning the colored patients to detached buildings, often well suited to the required purpose, or where suitable detached buildings were not available, wards in the main structure were set apart for their exclusive use.



From 1870 to 1880, the time of the chief medical officers of the insane hospitals of the Southern States was more occupied in devising ways and means for the rational custody of all classes of insane who needed their care, than in a careful study of the development of mental disease in the colored race, but overburdened with responsibilities as these good men were, and often without adequate medical assistance, some of them found time to give to the world the results of their intelligent and practical observations concerning the nature and treatment of the disease.

I do not wish to be considered invidious in my reference to the living or the dead, but I must in justice say, that so far as I have been able to observe, the best information on the subject as it was regarded at that time, or viewed prospectively, is that left to us in the writings of that able man, the late Dr. Compton, of Mississippi. He was endowed with a diversity of talents, and after having devoted a number of the valuable years of his life to the care of the insane, he withdrew from the field of public usefulness early in 1878, shortly to perish a victim to the pestilential epidemic of yellow fever that prevailed that year in most of the States bordering upon the Gulf of Mexico.

All persons engaged or interested in the care and treatment of the colored insane during this decade, realized that there was a large increase in the number under treatment, and of applications for admission to the hospitals, but no one was prepared for the remarkable revelations of the tenth national census, taken in 1880, which reported 6,157 insane, in a total colored population of 6,580,793. This very great increase in the colored insane in proportion to their population, as compared with the census of the decade immediately preceding, at once excited in those whose duty it was to provide for them, a new interest with more scientific tendencies than had previously prevailed. From this time on the causes

of insanity in the colored race, the susceptibility of the latter to the invasion of the disease, its curability in the results of treatment and of pathological research, were topics which received thoughtful consideration in the reports of those institutions in which insane colored people were treated, while the question of custodial care, still a very important problem, continued to be enlarged upon.

In our *résumé* of the history of insanity in the colored race we have comprehended a period of thirty years, at the beginning of which the subject had been little thought of. Before a quarter of a century had elapsed, it had grown to be one of primary interest to the philanthropist and psychologist, and at the present time, after the expiration of twenty-seven years, during which the former slave has been free, the question becomes one of magnitude to the people of the United States; for in these years the disease has increased so rapidly that it is quite evident that the proportion of colored insane to the entire colored population is fast approximating that of the white population, which was reported by the census of 1880, as one in each five hundred.

What the census of 1890, which is now being taken, will reveal, no one can tell.

What has caused this great increase of mental disease in the colored race? Briefly, a combination of causes, the stirring events, irregular habits, the new and exciting requirements incident to their emancipation, life of freedom, and advancing civilization.

To explain: they are naturally timid, suspicious and emotional, sensitive to the calamitous effects of war, excitement of politics, and the influences of religion, to the agitations of which they have been greatly exposed during the past twenty-five years.

Previous to their emancipation, the health and morals of the slaves were carefully preserved, and inebriety, excessive venery, and venereal diseases were closely

guarded against; since their liberation, through over-indulgence, exposure and ignorance of the laws of health, many have suffered from the effects of these fruitful causes of insanity. Untutored in a knowledge of the world, and without a sound philosophy or a religion deeper seated than the emotions to sustain them in adversity, many minds have failed under the constant strain of their advancing civilization.

There is considerable diversity of opinion with reference to the difference in types of insanity affecting white and colored people. My impression is, *cæteris paribus*, that they are essentially the same in both. The more active forms of insanity, usually classified under the term of mania, are, for obvious reasons, most frequently found in hospitals. Those forms included in the classified melancholias, often escape recognition and proper treatment, for the race superstitions lead the friends of persons suffering from this form of disease to conceal the true conditions, and to attribute the mental disturbance to the occult influences of "voodooism," "conjugation," or evil spirits, the effects of which have to be counteracted by some fetish, charm or "mystic spell." While being thus "doctored," the patient either dies of inanition or sinks into the harmless fatuity of terminal dementia, in which state he can be cared for at home.

Paralytic dementia is a well defined and readily recognized form of disease in the colored race, though perhaps the delusions of grandeur, usually present, are not so exalted as in white paretics. The physical signs are equally well marked, while pathological investigation invariably confirms the diagnosis.

Suicidal tendencies are unusual among people of color, and in an experience of twenty-two years, but one case has come under my observation, and he strangled himself to death in the criminal department of the hospital with which I am connected, with part of a sheet attached to the head of his bed.

Heredity has played little, if any part, in causing

insanity in the colored race. It is too early in the history of their freedom for the degenerating effects of civilization to be manifest in the progeny of the recent slave. The opium habit and the ill effects resulting therefrom, I believe, are rarely met with.

The relative curability of insanity in the two races, is a question upon which there are also differences of opinion. My own belief is that where the circumstances are similarly favorable, the results of treatment will be about the same in both.

In confirmation of the opinions advanced, I here introduce a condensed table of statistics, compiled from the records of the Government Hospital for the Insane, where, owing to its situation at the capital of the nation, and its methods of administration, the results of clinical observation are most likely to have been systematically recorded from its beginning.

There were admitted in the period from January 1st, 1855, to June 30th, 1889, 906 colored persons (532 males and 374 females) whose mental diseases were classified as follows, viz.:

Acute mania	-	-	-	365
Chronic mania	-	-	-	149
Melancholia	-	-	-	93
Dementia	-	-	-	147
Senile dementia	-	-	-	29
Epileptic dementia	-	-	-	50
General paralysis of the insane	-			38
Imbecility	-	-	-	23
Dipsomania	-	-	-	12
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Total	-	-	-	906

This table shows that there is no race immunity from the attacks of the ordinary types of insanity, and that the manias are largely in excess of any other form.

Discharges of colored persons from January 1st, 1855, to June 30th, 1889:

			Males.	Females.	Total.
Recovered	-	-	165	90	255
Improved	-	-	49	49	98
Unimproved	-	-	12	3	15
Died	-	-	192	140	332
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Total	-	-	418	282	700
Remaining under treatment					
June 30th, 1889	-	-	114	92	206

This table in all its details compares favorably with similar tables given in reports of hospitals where a like number of patients, irrespective of race or color, have been treated.

Summary of total admissions of colored persons from January 1st, 1855, to June 30th, 1889:

			Males.	Females.	Total.
Percentages of recovered	-		31.02	24.06	28.15
Percentages of improved	-		9.21	13.10	10.90
Percentages of unimproved	-		2.63	1.07	1.99
Percentages of died	-	-	36.09	37.43	36.65
Percentages remaining	-	-	21.05	24.34	22.31
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Total	-	-	100.00	100.00	100.00

If the statements of distinguished alienists that of all the insane who receive treatment not more than one-third recover is accepted, this table, showing 28.15 as a total percentage of recoveries on admissions, needs no further comment at this time.

Under direction of Dr. Godding, the medical superintendent of the institution, the patients have been photographed for clinical purposes and for future reference in the further study of mental and nervous diseases; and more for the purpose of illustration than for scientific demonstration, I introduce photographs of a few characteristic cases, with apologies for all artistic defects.

No. 1 represents a typical case of chronic circular mania, and shows the patient while in his most comfortable condition.

No. 2 represents a case of acute mania (in a deaf mute) with delusions with reference to sex. He thought himself a mother deprived of her offspring.

Nos. 3 and 4, two well defined cases of parietic dementia.

No. 5, a case of epileptic dementia, induced by injury to head, abnormal pride and self-esteem being marked features.

No. 6, a case of chronic mania with perversion of all the moral instincts.

No. 7, a case of chronic mania (the suicide referred to).

In the line of investigation and the preservation of data which may be of value to the future scientist, under the direction of the medical superintendent, my colleague, Dr. Blackburn, pathologist of the hospital, has been keeping, after a method of his own, a record of the measurements of the crania in all cases in which he has performed autopsies. Thus far, his work in this direction has done little more than to confirm more fully the work of the older craniologists, who demonstrated that there is a material difference in the shape and dimension of the head of the Caucasian and colored race. The distinguishing features of the two races, in this particular, are well shown by comparing the diagrams of the crania of twenty-four individuals, the entire number recorded in this manner, and a like number of crania of whites, taken indiscriminately from the records.

To conclude, the African negro and his descendants have occupied a prominent place in the history of the United States of North America. Much has been done for the race and more remains to be done, but grave disturbances are no longer feared by the American people.





Apropos to the subject, in anticipation of the prospects of America, one hundred and sixty years ago, Bishop Berkeley wrote, "Westward the course of Empire takes its way." The enlightened world turned to view the fulfillment of that prophecy.

Behold the West to-day! The empire of intellect as exemplified in the nineteenth century, in its march has held its true course, until the civilization of the occident encroaches upon the barbaric customs and traditions of the orient, pushing them to the wall and dragging them from the temples.

Less than half a century ago, Victor Hugo gave to the world this prophecy, "Africa will be the continent of the twentieth century." The dawn of its fulfillment is seen in the closing hours of the present century; but who can tell, what the twentieth century's civilization will do for Africa, as it disseminates from the path blazed by Stanley through the boundless forest of the dark continent? ,

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# The Evolution of Delusions from Imperative Conceptions.\*

By JAS. G. KIERNAN, M. D., Chicago,

Fellow of the Chicago Academy of Medicine.

THE rapidly increasing literature anent imperative conceptions exhibits a tendency to regard these as distinct in kind from other morbid mental phenomena. This is illustrated in a recent contribution by so conservative an alienist as Hack Tuke,† who claims that while imperative conceptions frequently occur in persons with markedly insane taint, this is not necessarily a factor. Common to all these cases is the bondage under which the victim lies to pursue a certain trivial or disagreeable line of thought associated with sanity in other respects. It is easy to see how this view should have gained dominance, since the essential feature of the imperative conception is its recognition as an abnormality by its victims, and its relative frequency as compared with other abnormal mental manifestations.

The intimate relation between this phenomenon and delusions however strongly impresses the student of these in the insane. Some years ago‡ I reported a case in which, as later observed, the transition was clearly traceable.

CASE I. was that of an Irish-Celtic female who had been an intelligent, modest, affectionate wife up to the time she was attacked by typhus fever, accompanied with high temperature and delirium. On recovery therefrom there was observable an hitherto absent coarseness and a tendency to malicious mischief toward her husband, whose sense of propriety she took an especial delight in outraging. She indulged in sprees, not because she liked alcohol, but because the shock given to her husband

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\* Read before the Chicago Academy of Medicine.

† *British Medical Journal*, August 23rd, 1890

‡ *Journal of Nervous and Mental Disease*, 1886, page 168.

caused her exquisite pleasure. Her conduct was so demonstrably out of accord with her surroundings that the trial jury readily found her insane despite the outrageous immorality on which the diagnosis was chiefly based. In 1885, when she passed from my observation, she clearly recognized the nature of every act she had committed. She gave the following description of her case: She is "insane, a thief and a liar," and from the "nature of her mind," she believes it all to be curable by medicine. Sometimes she has "weak spells of mischief," which she can control if people do not look down on her and treat her as a "bad woman." She displays great talent at repartee. At one time she took great pleasure in pulling hair and soiling clothing. Later she explained that she had a "great power" on her to do this. The "will part of her mind was weak," but "kindness and doctor's talk about her insanity" made it stronger when she had "weak spells of mischief" only. She has "strong spells of secret love," when she smashes windows to feel "happy" from seeing the "blood run" from her cut fingers. These are evidently erotic attacks. She uses obscene language if she cannot smash glass and see the blood run. She is healthily depressed after these attacks from a sense of shame, for her former modesty for the time being dominates her. While it is evident that her acts are performed under the influence of imperative conceptions, these acts are often very complicated. For example, she took the window from its frame and noiselessly put it over the door transom, suspending it by a sheet. By the time the attendant could reach the room she would be in bed, apparently asleep. At nine o'clock one night, she noiselessly took a pail apart and left each stave adroitly balanced on the transom of the door.

Her "strong spells" came on suddenly like "fits of the falling sickness;" she "knows what she is about, but can't help it." She does "not hear voices nor any nonsense of that kind," but this "power of the strong spells" comes on her in "thoughts like fits do over people with the falling sickness."

These spells are preceded by a "dull head," and then she "knows that the power of the strong spells" is coming on.

This "dull head" was evidently of the type of that patient of Conolly Norman,\* who was a victim of "grüb-

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\* *Journal of Mental Science*, October, 1888.

elsucht" (prying mania), he had a "sense of numbness," of "emptiness;" a "drumming, stinging pain on the vertex; a stupid feeling, with a dreadful buzzing sound in the ears." These symptoms have raised a suspicion in my mind that labyrinthine vertigo may underlie some states of mental uncertainty. Four years later, in 1889, when my patient again came under care, she was morally obtuse. The eroticism had become open indecency, unattended by glass-smashing, except at rare intervals. Markedly systematized persecutorial delusions had developed, which were accompanied by hallucinations. The patient's logic was now exceedingly perverse. She no longer recognized the abnormal nature of her imperative conceptions, and acts previously due to them were now the outcome of auditory hallucinations.

A case in which another stage of the transition from imperative conceptions to delusions occurred, is cited by Prichard\* from Jacobi:

CASE II.—The patient had the delusion that a person was concealed in his body, with whom he conversed. He often perceived the absurdity of this idea and grieved in acknowledging and reflecting that he was under so groundless a persuasion but could never get rid of it. It was curious to observe how, when he had but an instant before cried, "What nonsense! Is it not intolerable to be so deluded?" and when the tears accompanying these exclamations were still in his eyes, he began to talk apparently with entire conviction about the whisperings of the person in his belly who told him he was to marry a princess.

The conversion of the imperative conception into a delusion proceeds in the manner outlined by Laségue† in his study of consecutive hallucinations.

The patient reasons that among the numerous ideas which strike him, there are some, the origin of which he recognizes and some which he does not. There are then for him two individualities, one of which is himself and the other is a "he" which is and is not himself, but a species of parasitic being which has taken control over him. It is "he" who commands, maintains and ordains,

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\* "Treatise on Insanity," page 34.

† *Annales Medico-Psych.*, Jan.-March, 1881.



and the patient is unable to detach himself from this parasite. How has this new "*ego*" obtained control over his thoughts and imposed on him its will? By the ordinary process of thought? No; but by something or someone which speaks to him. When the patient has obtained this formula he has the explanation of his condition. Auditory hallucinations form as a mode of communication between his thoughts and the parasite which interferes in his existence. It is an elaborated transition between the ideas of self and the ideas of another.

The further transition of hallucinations thus formed is excellently illustrated by cases reported by Séglas,\* Kurella,† Workman‡ and myself.§

CASE III.—(Séglas): The patient heard epigastric voices which sometimes obliged her to pronounce certain words against her will. At times she felt these voices were spoken in her mouth and she was constrained to move her tongue but her mouth remained closed. She understood what they said from the movements of her tongue.

CASE IV.—(Kurella): The patient, a persecutorial, delusional paranoiac, believed that a demented fellow-patient could impress words on him. Of these, bystanders at the time of impression were not aware, while the victim was.

CASE V.—(Workman): A female patient believed that the devil had taken up his abode in her mouth and carried on a conversation to induce her to do evil.

CASE VI.—(Kiernan): The patient developed from certain epigastric sensations a delusion that he had a "doctor" in his belly, who was constantly talking to him. The sound, however, did not come through his ears, but through movements of his tongue. A step further and the parasitic "doctor" would absorb his host.

The phenomena denominated by Meynert, "delusions of memory," result from imperative conceptions. An

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\* ALIENIST AND NEUROLOGIST, Vol. XI.

† *Centralbl. f. Nervenheilkunde*, Oct. 1, 1889.

‡ ALIENIST AND NEUROLOGIST, Vol. XI

§ *Journal of Nervous and Mental Disease*, 1879, page 90.



imperative conception is remembered not as an unreality, but as a fact. This mental state closely resembles that produced in an hypnotized person when "suggestions" made during the hypnotic state are remembered after consciousness is regained without recollection of its origin. The aid these delusions of memory give to the development of delusions from imperative conceptions is very patent.

For the production of hallucinations from imperative conceptions, in the case first cited, it was only necessary that the relatively healthy mental background become distorted; that the mental "chorea," so to speak, become a mental "epilepsy." Such transformation occurs in imperative conceptions in an otherwise healthy mind. Spitzka\* reports a case wherein after years of alternate recovery and relapse, the patient, who at one time recognized the absurd nature of her ideas, gradually came to speculate on the possibility of these being produced by someone inimical to her. Imperative conceptions, on the other hand, are often recognized as such by paranoiacs. In the famous case of Haslam†, the "air-loom" was used in "dragon-flying," whereby an idea was lifted into the brain, where it undulated for hours together; the victim was unable to rid himself of an idea so insinuated. The "air-loom" was also used in "lengthening the brain." As the cylindrical mirror distorts the countenance, so this distorts ideas, and the most serious subjects are made silly and ridiculous. The "air-loom" was also used in "thought-making;" while one of the conspirators sucked at the brain, another pressed into the vacuum ideas very different from his real sentiments; thus his mind was physically enslaved. Dr. Harriet C. B. Alexander‡ has had under observation the case of a female paranoiac, who had obscene thoughts enforced on her by electricity and was thereby compelled to utter them.

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Hallucinatory phenomena of paranoia may long exist

\* "Manual of Insanity."

† ALIENIST AND NEUROLOGIST, Vol. X.

‡ ALIENIST AND NEUROLOGIST, Vol. VII.

unassociated, side by side, with imperative conceptions. Dr. Theodore Diller\* reports the case of a paranoiac who after ten years of demonstrable insanity, had not connected her "inward promptings" with hallucinations.

The physical substratum of these states has been pointed out by Spitzka,† who says:

Meynert, many years ago, called attention to the presumptive physiological *role* of certain arched fibers, which are known to unite adjoining as well as distant cortical areas with each other. I should, if asked to point to the chief factor on which the higher powers of the human brain depend, lay less stress on the cortical development, as such, than on the immense preponderance of the white substance, due to the massive associating tracts. Although the projecting tracts are also larger in man than in any other animal, yet so great is the preponderance of the associating mechanism that the elimination of the former would not reduce the white substance of the hemisphere by one-half its bulk. Both projecting and associating fiber masses increase in a nearly geometrical progression as we pass from the lower animals to man; but the ratio of progression of the associating fiber masses exceeds that of the projecting tracts. There are certain convolutions which are almost exclusively connected with *fibræ arcuatæ*; that is, with associating tracts, and which enjoy but little direct connection with the bodily periphera. It is reasonable to believe that such cortical areas, so connected, play an important *role* as a substratum of the abstractions. Such cortical areas and their subsidiary associating tracts, bound into the still higher unity of the entire hemisphere, constitute the substratum of the metaphysician's "*ego*." A disturbance of the intricate relations which are involved in the material basis of the "*ego*," must be accompanied by a disturbance of the "*ego*," or may even render an "*ego*" an impossibility. It is on accurate connection of projection areas with projection areas, and of these with "abstraction" areas that the faculty of logical correlation must depend. The correction of the countless errors made during a lifetime is possible only by an influence analogous to inhibition, exercised by the association fasciculi, and the proper aim of every really educational system is to develop this control of the various cortical screens on each other; a correction which, with approaching maturity, is delegated to the "abstraction" field.

Conolly Norman,‡ discussing the psychic basis of imperative conception, points out that:

"Grübelsucht" (prying mania) consists essentially in the possession of the mind by an imperative mode of thought taking the form of

\* ALIENIST AND NEUROLOGIST, Vol. XI.

† ALIENIST AND NEUROLOGIST, Vol. VIII., page 300.

‡ *Journal of Mental Science*, 1888.

perpetual interrogation, a constant urgent morbid impulse to inquire into and investigate everything, an incapacity to accept contentedly the ordinary postulates of knowledge, and finally a total inability to fix attention upon anything except the spinning of an endless web of meaningless questions.

It seems to me, however, that this condition is not an active obsession, like an imperative conception properly so-called, but a disturbance of the "*ego*," leading to uncertainty, and hence, to attempts to resolve this uncertainty. In imperative conditions, properly so-called, there is both the uncertainty and an active obsession. Disturbance of the "abstraction field" results in the uncertainty underlying the "abulia" ("will-power loss") of melancholia and "grübel sucht." Ordinarily, the functions of the "abstraction field" are performed in what may be termed an automatic manner. Physical exhaustion and other states of constitutional disturbance may destroy this automatism and the individual becomes actively conscious of the will-power needed to control conceptions constantly received from sense impressions. Upon the degree of weakening depends whether simple uncertainty, the morbid analysis of "grübel sucht," or the well-marked imperative conception with its transformation into the imperative act, result. If the "abstraction field" be still further involved, the phenomenon described by Laségue results, followed later as the parasitic "*ego*" gains dominancy, by delusions of personality.

It is usually assumed that the "*ego*" is a centralized entity when in reality, as Ribot\* points out:

The "*ego*" is a co-ordination. It oscillates between two extreme points—perfect unity and absolute inco-ordination else it ceases to be—and all the intermediate degrees exemplified without any line of demarcation between normal and abnormal, health and disease; the one trenching upon the other. Wherefore the "*ego*" in the psychological sense is the cohesion, for a given time, of a certain number of clear states of consciousness, accompanied by others less clear and by a multitude of

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\* Works Humboldt Library.

physiological states which though unaccompanied by consciousness are not less, but even more effective than the conscious states.

If the condition resulting in imperative conceptions occur in an otherwise healthy mind the conception may never develop into a delusion but disappear with improved health. In states of systemic exhaustion, as in the case first cited, true impulsive insanity may result, developing into delusional insanity with impulsive acts, based on hallucinations uttered by a parasitic "*ego*." Later still this parasitic "*ego*" may gain dominance and, as in cases observed by myself\* and Langlois,† the patient, recognizing the improper nature of certain acts, punishes the parasitic "*ego*" by beating his own head.

The favorable prognosis in cases of imperative conceptions given by Spitzka‡ and Conolly Norman§ will depend on the neuropathic state of the patient. My experience agrees with that of Tuke,§ who says that while prognosis is not, as a rule, favorable, and the particular obsession cannot be gotten rid of, still the patient might pass for sane in the society in which he moves. Spitzka's case, already cited, demonstrates that frequent relapses tend to weaken the mental background and predispose to delusion. This is borne out by a case reported by Dr. Harriet C. B. Alexander.||

CASE VI.—A hereditarily neurotic unmarried girl came under care for mysophobia. She had a patulous capacious vagina and was, in all probability, addicted to masturbation. She was much exhausted physically and suffered from profuse leucorrhea. On the treatment of this last with boracic acid and the general use of tonics, she recovered from the mysophobia, but it returned on temporary exhaustion from a moral shock, which produced amenorrhea. She regained health under electrical treatment, but overwork once more brought on her mysopho-

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\* *Detroit Lancet*, Vol. V.

† *Annales Medico-Psych.*, T. VI., S. IV., page 80.

‡ *Op cit*

§ *Journal of Mental Science*, 1890.

|| *Medical Standard*, Vol. III.

biac ideas. She is under treatment with the electric breeze of the static machine, but conceals delusions of persecution, now developing, from the physician now treating her.

Imperative conceptions occur in that "*ego*" destroying disease, epilepsy. One epileptic, cited by Dr. Harriet C. B. Alexander\* in illustration of the untoward effects of the bromides, exhibited coprololiac (foul language) tendencies between the attacks during the period of lucidity. The improper nature and abnormal character of these utterances she fully recognized. To enable her to control them she tied a cloth around her mouth, which aid to her will was usually effectual. Five years later most of the coprololiac tendencies were changed to auditory hallucinations and the bandage was no longer used. Schüle and Krafft-Ebing express the opinion that imperative conceptions and allied states are expressions of degeneracy, but they certainly occur in temporary neuropathic states produced in otherwise healthy individuals which disturb the unity of the "*ego*." When imperative conceptions, however, occur in the degenerate, the cases cited demonstrate that after several recoveries and relapses, fixed and insistent ideas may result which sometimes develop into delusional insanity. Furthermore, the cases cited from Haslam, that reported by Diller and that observed by myself, demonstrate that imperative conceptions may either act as supports to pre-existing delusions or may remain independent of these. The case first cited by myself demonstrates that on the basis of a neuropathic diathesis set up by typhus fever, imperative conceptions sometimes develop into consecutive hallucinations, followed by systematized delusions.

The course and influence of these "states of uncertainty" will therefore turn on the organism attacked, whether it be the victim of acquired or inherited defect or previously healthy. That they are potent factors in the production of delusions seems demonstrable. The

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\* *Medical Standard*, Vol. I.



disturbance of the unconscious states which, as Ribot shows, make up a potent element of the "*ego*," by the congenital or acquired visceral innervation deficiencies in paranoia, explains the ready systematization of delusions in this psychosis. The deficiency in visceral innervation aids, in lieu of inhibiting, imperative and other abnormal mental conceptions.

## DISCUSSION.

IN the discussion Dr. Moyer expressed the opinion that some normal mental states became the basis of imperative conceptions when they passed from the domain of automatism into consciousness. He, himself, when walking, while preoccupied, is in the habit of touching various objects in passing; the occurrence of splinters in his fingers being the only, but very unpleasant reminder of these unconscious motor expressions. He had now under observation a young woman of decidedly neurotic heredity—a sufferer from violent headaches, and marked general vasomotor disturbances, who had acquired the habit of counting objects that came within her vision—the buttons upon a garment, figures of wall paper or carpet, windows, bricks in a wall, etc. That this habit had passed beyond the stage of unconscious nerve action, was shown by the fact that a mere habit of the lower centers had reached the dignity of an imperative conception, because the patient was no longer able to control the morbid impulse, and could help counting objects only when the mind was intensely occupied by some other way.

In regard to the danger of such imperative conceptions passing into hallucinations, he concurred with Dr. Kiernan, whose opinion he would ask incidentally as to his agreement in favorable prognosis based on visual hallucinations in connection with the following case, which illustrated the passage of imperative conception into visual hallucination: A young physician, as a result of over-study, want of sleep and anxiety, became the victim of an imperative conception, in that he thought some one was trying to injure him, and that he must be constantly upon the lookout. The imperative conception to look for someone soon passed into the distinct visual hallucination of the persecuting individual, who proved to be a rather large man with reddish whiskers, but with features poorly defined. Curiously enough he always presented himself at the right of the patient, and never passed beyond the middle line to the left side of the visual field. The patient, at first able to correct the evil presentiment and overcome the impulse to look for the evil genius as soon as the hallucination presented itself, lost all self control, and traveled from city to city, trying to shake off his phantom. Finally his conduct became so disturbed that he was taken up and sent to his friend's



With quiet and appropriate treatment he soon recognized the hallucinatory character of the vision, and was fully restored. In a diagnostic point of view it is well to remember how different this condition is from that in paranoia, in which a delusion of persecution is built upon a tissue of hallucinations and illusions, or from pure logical perversion without sensory aberrations. In the case cited we have a simple subjective depression, probably having its origin in a disturbance of the vascular supply of the brain. The next link in this morbid chain was the development of an imperative conception, to yield in its turn to the hallucination.

DR. SANGER BROWN said that the term, imperative conception, is susceptible of almost indefinite extension. It may be a prominent factor in the mental operations of those whose mental integrity is never questioned, as well as a potent causative influence in determining the nature of the manifestations in any of the most typical forms of insanity. It may be represented by the act of the child wrecking a toppling tower of blocks, or the mother who takes the life of her helpless offspring. Alienists have generally restricted the application of the term to those cases where conduct, prompted by imperative conceptions, has been of such a nature as to render some special form of external restraint necessary; and where illusions, delusions or hallucinations were not present, at least without having given the matter much special attention of late, expressed in general terms, that is the view he had held, and consequently he regarded it as belonging in the category of primary or early defect, and having in common with all the members of this group, as an essential element a persistence of the mental characteristics of childhood which are thrown into greater prominence in consequence of the imperfect development in other directions. He did not think these cases tend strongly toward delusional states, and when delusions do occur they are likely to be unobtrusive and variable. Delusions are more prone to appear in a mind ever so much developed, but in which certain essential parts of the structure for some (somatic) reason fails to functionate as they had been accustomed to do. A sharp distinction should be drawn between imperative conception, resulting from delusions, and those not so caused. Perversity is very closely allied to imperative conceptions. Indeed, he believed some sort of perversion will be found combined or associated with it in most instances. An analysis of mental operations, both under normal and pathological conditions, with a view to defining the relation of impulse and imperative conceptions—for imperative conceptions may in some respects be regarded as a persistent impulse—to these various processes is highly valuable and interesting, and demands an investigation of forces and influences, ever so primitive in the evolution of the intellectual faculties.

DR. W. L. AXFORD asked if Dr. Samuel Johnson, the author of "Rasselas," whom Boswell had immortalized, was not the victim of imperative conceptions when he persisted in touching posts, which, according to biography, evidently entered into the domain of consciousness since when he failed to touch a post he suffered until he

could repair his omission. In connection with the migraine ophthalmic phenomena reported by Dr. Moyer, the late lamented Dr. Norcom expressed the same idea naively and tersely, when he said that if he saw half a dog or half a chicken walking along the street, he knew he was going to have an attack of migraine.

DR. EWELL asked if the hypnogogic hallucinations, which result from the

"Dreams which float before the half shut eye,"

did not persist after waking, and sometimes directly, sometimes indirectly from the operation of the "delusions of memory," form the basis of imperative conceptions?

DR. FRANK S. BILLINGS asked if alcoholism was not a potent cause of imperative conceptions. He knew of a case in which a man after slight indulgence in alcohol was compelled by an irresistible impulse to visit houses of prostitution. Coition under such surroundings was repugnant to him, and he struggled against the tendency, but had to yield.

DR. KIERNAN in closing the discussion said that he had called attention to the relationship between delusions and imperative conceptions, because a very great tendency had been exhibited to conclude that a great gap lay between these phenomena. This tendency needed correction in his judgment; not the tendency to regard delusions, as imperative conceptions. Dr. Moyer had incidentally pointed out the unconscious physiological states to which Ribot referred. These, even when they rose slightly into the domain of consciousness, could be checked by logical inhibition of a healthy mentality. Dr. Kiernan was of opinion with Dr. Moyer that visual hallucinations were of less serious prognostic significance. The child displayed ready acceptance of conditions allied to imperative conceptions, because it had not been trained to distinguish between the objective and subjective. In some instances defect of the associating mechanism prevented this distinction being acquired, but lack of training, as in the savage, also prevented its acquirement. The points to which Dr. Kiernan had specially desired to call attention were that imperative conceptions resulted from disturbances of the "*ego*," which led to states of uncertainty owing to unconscious states rising into consciousness. He also wished to emphasize the method of evolution from such conceptions into delusions in predisposed cases. The case cited by Dr. Billings was possibly impure. The influence of genital excitation by alcohol could not be excluded. The case of Dr. Samuel Johnson had been discussed at some length by Dr. Spitzka and himself.\* Johnson had positive hallucinations, and heard his mother call him "Sam! Sam!" in the market-place, while she was miles distant. Blaise Pascal was a clearer case. He always saw at his table side a "blazing gulf" which he could cause to disappear by placing a chair therein. This case was closely akin to the

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\* ALIENIST AND NEUROLOGIST, 1887

hallucination and a very slight abulia would have made it such. Hypnogogic hallucinations were present in most men, and at times engendered many mental abnormalities other than hallucinations. Visual hallucinations were often based on residua of former normal perceptions for the optic nerve had a very slight power of temporary registration, unlike other nerves. Its wide expanse in the eye, exposed it also, to more influences from circulatory disturbance of peripheric origin than other nerves, whence it happened that scotomic dots readily formed, in predisposed cases from coexistent disturbed mentality, an illusional basis of hallucinations. Auditory hallucinations were usually terminal or consecutive to other mental abnormalities.

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## NOTE ON THE VIRILE REFLEX.

By C. H. HUGHES, M. D., St. Louis.

IF you take a perfectly healthy individual, whose spinal cord is entirely normal, especially in its genito-spinal center, and place him on a couch without head-rest, supine, and nude about the loins, and make the sheath of the penis tense by claspings the foreskin with the left index finger and thumb at about the place of the frænum, and pulling it firmly towards the umbilicus, placing the middle, ring and little finger low down upon the dorsum of the virile organ, for perceptive purposes, and then sharply percuss the dorsum or sides of the penis, near the perineal extremity, a quick and very sensible reflex motor response or retraction of the bulbo-cavernous portion will be felt to result from this sudden percussional impression, like that which follows, though less pronounced, in the testicles, after sensory irritation of the inner aspect of the thighs, and known as the cremasteric reflex. The reflex jerk is away from the irritating impulse, though it is down towards the perinæum in the penis reflex, while it is upwards in both the cremasteric and patellar tendon phenomena. I have not seen this phenomenon described before.

This reflex symptom is of important clinical and physiological significance. Its full value for diagnostic or prognostic purposes have yet to be determined by further investigation than I have given it. But I have learned enough to confidently commend it to neurological clinicians.

I have called it the virile reflex, because it seems to be actively present in all healthy adult males with normal spinal cords, whom I have examined, and absent in infants and feeble, or absent in male children who have not attained the age of puberty. A number of years ago I

ventured the assertion that the absence of the cremasteric reflex would be found of significance in the determination of impaired virility from sexual excess and masturbation. This subsequent experience has only confirmed. Now this new sign—the penis percussion reflex—present, impaired or absent, gives us another valuable evidence of the vigor, impairment, loss or abeyance of the sexual powers in man.

After prolonged excessive venery it becomes impaired or disappears, to return again with sexual recuperation.

After excessive masturbation, long continued, with accompanying neurasthenia, I have found it impaired, but seldom entirely absent in young subjects. It is not impaired in masturbation when the habit has not destroyed the sexual power. It disappears in some cases of chronic meconism, and becomes abeyant in long and beastly intoxication, though often excitable in acute alcoholism. This subject needs further investigation.

It is lowered and abeyant in the later stages of typhoid fever, and I have found it also in the moribund state. I have found it absent in old men who have acknowledged and sought treatment for entire virile incapacity.

It is often, but by no means uniformly found in sympathy with the other reflexes in spinal cord disease of the lumbo-dorsal spine, as the quadriceps extensor femoris tendon reflex, the anal, vesical and cremasteric reflex, the achilles reflex and ankle clonus.

A kind of erector penis clonus, characterized by a succession of jerks, continuing after the percussion or while the foreskin is kept stretched, much like the characteristic ankle clonus, having been elicited in one case of transverse dorsal spinal myelitis with double ankle clonus only to fade away as the ankle clonus disappeared. I found it absent in another case.

This phenomenon may also be elicited by suddenly jerking the foreskin after it has been made tense, or by pinching the theca of the penis when it is in this stretched condition. This reflex may be reinforced like the knee

phenomenon. Electrical excitation will also evoke it. A clonus may sometimes be elicited in this way.

Some skill in palpation—a sort of *tactus eruditus* is necessary in examining for this sign, the characteristic jerking back of the bulbous urethra within the sheath of the penis being felt only when carefully sought for. It is not ordinarily to be seen.

This sign does not always sympathize with the other reflexes in spinal column or cord disease. I have lately found the sign absent in the case of a married man, aged forty-five, sent me by Dr. Charles Barck, the accomplished ophthalmologist of the Marion-Sims Medical College, who diagnosed white atrophy of the retina. This man had also unequal pupils, exaggerated patellar reflexes, and other evidences of *sclerose in plaques*. He gave a history of syphilis, and confessed to feeble virile powers. In him the virile reflex was scarcely perceptible. I found it absent on the same day in another, but older patient, with optic atrophy unequal pupils and cerebral sclerosis, which I regard as one of multiple cerebro-spinal disease. The optic atrophy was diagnosed by Dr. Post and Dr. Wolfner. This man's age however is fifty-six, but the sign is not normally absent at that age in healthy men. I have found this sign absent in the status epilepticus, but not necessarily modified in hemiplegia. It was exaggerated in a case of paraplegia of cerebral origin.

It should receive further consideration at the hands of neurological clinicians, for it appears worthy a place in clinical neurology with Westphal's paradoxical contraction, Erb's reaction of degeneration, or any of the hitherto recognized diagnostic reflexes.



## NEURASTHENIA.\*

By P. J. KOWELEWSKI, M. D., Karkow, Russia.

NEURASTHENIA is so widely diffused and so extensively discussed that knowledge of its existence has passed into the domain of general medicine. Writers like Beard, Hughes, Mann and others of America; Arndt, Zeimssen, Berger and others of Germany; Muchin, Jakoblew, Rosenbach, Dragomanon of Russia, as well as English and Italian authorities, have extensively analyzed the disease. Detailed consideration of semiology and ætiology would hence be superfluous, since but little that was new could be added to the results of the authorities mentioned. The factors constituting the essential nature of neurasthenia are of more particular interest. Evidently it is a neurosis in which no organic lesions are found on autopsy, *i. e.*, a functional disorder. If such be the case the question naturally arises, How is it hereditarily transmitted, especially in cases where it is not the result of neuropathic or psychopathic taint but of other taint, luetic, rheumatic, gouty, etc.?

The theories advanced hitherto as to neurasthenia, explain only the more prominent facts in the smaller group of cases but fail on application to other cases. Beard, the first investigator in this direction, claimed that neurasthenia results from diminished supply of nerve force, in consequence of insufficient nutrition of the nervous system. This view is probably close to the truth, but it fails to explain what is "nerve force," and where the diminished nutrition of the nerves is to be found. Hence it is mainly a reassertion of the problem in a new form rather than an explanation of the nature of neurasthenia. There is observable in neurasthenics a deportment and a disposition which bears a certain resemblance to the impulsiveness

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\* *Centralblatt f. Nervenheilkunde*, Sept., 1890.

and extreme excitability of childhood, on the one hand, and the results of rapid exhaustion and fatigue on the other. Arndt\* has endeavored to explain this by a theory based on the findings in some neurasthenics of fatty degenerated nerve cells with nerve cells in an embryonic state. Some portions of the nervous system have an appearance of fœtal or embryonic tissue. The ganglionic cells are imperfectly developed. The communicating fibers are decreased. The cells are indistinctly defined owing to imperfect differentiation and separation from the parent tissue. The nerve fibers are exceedingly thin and fragile. In some places they are entirely wanting, and replaced by neuroglia tissue. Such changes are only occasionally found and principally in the sympathetic system. Arndt claims that these findings show that neurasthenia is due to an embryonic condition of a greater or smaller portion of morphological elements of those affected. Were this theory supported by sufficient data, it would account for the hereditary cases, but fails totally in the cases where neurasthenia develops in hitherto healthy organisms. Russian ætiological researches later conducted on functional neuropathies by Dr. Wisedensky, demonstrated that, no matter how long any particular organ be irritated, its nerve trunk does not give evidence of fatigue or organic lesion, and that it may functionate without harm for a prolonged period. The central nerve cells however exhibit different results when unduly long excited. Anfimow and Sadowski have observed that when the peripheral nervous system is subjected to long continued mechanical or electric irritation, the excitement originating in the peripheral cells will cause the central nerve cells to succumb to the over-irritation rendered evident in organic change, in the shape of neurotic coagulation, vacuols, etc.

These experimental results seem to indicate that changes may arise in the central nervous system analogous to those resulting from mental overstrain. The sub-

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\* "Die Neurasthenie," 1885, page 110.

division of labor of modern life compels individuals to over-exert certain portions of their central nervous system while neglecting others, thus producing an undue exhaustion of certain tracts. When to these strains are added the influence of stimulants and other features of modern life, the impression naturally occurs that in neurasthenics those nerve elements, which are worked beyond their capacity, may suffer changes analogous to those induced experimentally by Anfimow and Sadowski in animals.

This theory might explain cases of acquired neurasthenia, but only cases in which more or less pronounced alteration of the cell element of central nervous system may be assumed.

According to another theory, neurasthenia is dependent on mental exhaustion and over-stimulation. This theory has been excellently formulated by Hughes.\* In our time mental work is prosecuted to a greater degree than in former generations, while the surrounding social and economical atmosphere contains more stimulating than invigorating elements.

Hughes says :

We are too much absorbed by work, and "work forever" with no time to breathe free, has almost become the watchword pedagogically, socially and politically. But our organism is so constituted that corresponding relaxation is one of the most essential demands, and an absolute requirement to the integrity of the body. The most important factor in recuperation is sleep, the balm of injured souls, and the bath of oppressed labor. And this necessary compensation of the losses, the deficit, and the exhaustion of our mental existence is being neglected. All the modern forms of mental labor, our diversions, our amusements are relegated to the very hours of the day that should be devoted exclusively to sleep. Night, designed by Nature herself for rejuvenating sleep, is to not a few the main time for work, although the organs, fatigued during the day (the brain and heart), are in need of rest; the exhausted organism is prodded with stimulating substances (alcohol, coffee, tea), instead of yielding to its demands for rest. As a result of such unreasonable methods of life we find many workers declining mentally at a period when they should shine with brightest light. We see how constant worry, a constant overloading with mental work in place of recuperation, chase each other, as in rivalry, to a premature grave. Uninterrupted work exhausts and weakens the nervous system in such

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\* ALIENIST AND NEUROLOGIST, 1889.

a direction as to induce more or less complete paralysis of the vasomotor system, and through this, congestion and an abnormally increased flow of blood to the cerebrum. Following this there supervenes insomnia with attendant oppression and languor, and, conditionally—progressive paralysis. Stimulants operate in a similar manner; mineral deposits are formed in arteries—so-called atheromatous degeneration of the cerebral arteries—which increase with advancing age. Excessive mental labor, further, exerts a deleterious influence on digestion, the gastric secretion, under disordered innervation, being diminished in quantity and unfavorably altered in character; not less deleterious to the organism are the concomitant perturbations of the vagus and sympatheticus, with their neuralgias, headaches, slight derangement of sensibility and innervation, the frequent precursors of serious cerebral attacks.

This is really not a theory of the nature of neurasthenia, but merely an exposition of the mechanism, the action of social conditions which gradually, step for step, superinduce neurasthenia.

We have devoted much space to the hypotheses of Arndt and Sadowski. These are acceptable to us since they pretty clearly elucidate those facts which lie openly before us, but the nature of which, nevertheless, remains perfectly incomprehensible.

The alleged embryonic and foetal conditions of certain sections of the central nervous system of neurasthenics explain one class of cases of hereditary neurasthenia; those in which infants, born under abnormal generative conditions, develop with organic changes of certain portions of the central nervous system, in consequence of which these parts remain in an embryonic condition during life.

*(To be Continued.)*

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## The Germs of Delirium.\*

By DR. EUGENIO TANZI,

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FEW of the phenomena of psychology have so much importance as the *myth*. The fables, not yet extinct, which slumber, or are dying out in our enlightened brains, constituted so great a part of ancient thought as to hold in it the place of logic, of science and of poetry, explaining every phenomenon, solving every doubt and animating everything. Sometimes, even now, the myth awakes impetuously, in the very midst of the coolest and most positive civilization, and with horrifying explosions of fanaticism it shows how deep are its roots in the mind of man.

Modern ethnologists, multiplying their studies, with a wide range on primitive religions, have regenerated mythology and converted it into a most valuable auxiliary to psychology. In mature civilization there happens the same event which often occurs in the person who reaches adult life, that is, the repossession of the records of infancy. The religious sentiment has been sounded and laid bare at so many points, that the whole of a very deep and formerly unknown *stratum* of human intelligence has been brought to light. At the same time, the languages, customs and passions of peoples in a state of nature, have been restudied with fresh vigor; the chronicles of our remote predecessors have been subjected to revision and are now no longer consulted merely as monotonous records of battles, but earnestly questioned as to psychological testimonies of a long past era; the usages, sayings, songs and prejudices of the common people, before passed over in silence, and despised, have

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\* Translated by JOSEPH WORKMAN from the *Rivista Sperimentale*, 1890.

been collected and reproduced with a faithfulness, which, in modern phraseology, we might well style phonographic; and hence has come to light the *folk-lore*. The most diversified researches and the most solid reconstructions permit us to-day to recall the moral figure of primitive man, in his inmost, and as we might also say subjective, manifestations; and they prove to us that his intelligence did not, in its origination, escape the greatest absurdities. That which now appears to us monstrous was not born of chance, nor from mere verbal equivocalities, but from the brain of man himself, as the natural and legitimate fruit of his own free activity.

The progress of *folk-lore* has dissipated the theory of Max Muller, who accepts the marvelous legends of antiquity as sapient and profound allegories, in which the personages represent planets and natural forces; and their actions which are so often wicked, foolish or incredible, he thinks alluded to just so many astronomical or meteorological phenomena. If, at a later date, proceeds this celebrated mythographer, names and things came to be taken literally, and were regarded as objects of religious faith, this resulted from a series of *glossological transformations*, which, by little and little, put the original allegory out of sight, and the words being corrupted, the meanings were finally obliterated; and hence arose the phrase in accordance with which mythology would simply signify *a disease of language*.

At the present time very few psychologists accept this specious hypothesis by which Max Muller vainly strives to trace a sort of retrograde evolution. Though true in some isolate cases, it is artificial and false the moment it pretends to the value of a general explanation. Numerous irresistible proofs demonstrate that the origin of myths was not philological, but intellectual: that they were not derived from exchanges and degenerations of words, but from the errors and the ingenuity of thought. Otherwise the appearance of the same myths among different and far distant peoples, whose languages



had never the least relation to each other, would be inexplicable.

Analogous legends and equal superstitions have been developed in the various regions of the earth and among races the farthest apart, not because the people transmitted them by changing the form and debasing the primitively logical and pure contents of them, but because they constitute a necessary phase in the intellectual evolution of man; a phase through which every human society is obliged to pass in its infantile age.

The longing to grasp the causality of phenomena, and the instinct of personification, as Friedlander well says, are the two factors which among all nations have given life and form to religious representations. The uniformity of myths in the different regions of the earth, impossible of explanation by the laws of phonetic transformations, are well explained by these common characters, or by admitting a unity of type in the constitution and the tendencies of the human mind.

By this method the study of mythology, from being simply æsthetic, as it was in its origin, having become in the course of this century, methodically but exaggeratedly philological, to-day changes its base and augments its own importance, by assuming a psychological character and value. If the graceful and most abundant material that forms the pagan mythology, sufficed at first to inspire the literary masterpieces of the classics and the artistic productions of the Renaissance; if at a later period, when enriched with Egyptian, Latin, Chaldean, German and Indian gifts, it furnished material for the ingenious, but almost always erroneous, and distilled charades of the philologists; to-day, completed and transfigured by means of the documents of savage and illiterate mythology, which extends from Polynesia to America, central Africa and Siberia, it rises to the dignity of a scientific archive and forms one of the poles of collective psychology. From the assemblage of so many concordant facts, the darkest corners, which are at the same

time the most ancient and essential provinces of the human mind, have been illumined; and it now most clearly appears that logical and vigorous thought is a recent acquisition, whilst all minds, during the first periods of civilization, are irresistibly carried away towards mysticism. All that in our days seems concreate with man—analysis, critical sense and moral sense—is therefore, as Schwartz has written, the result of ages.

The right and complete conception of the principle of causality, constitutes, in its turn, an acquisition quite modern. It is of no service to oppose to this truth, the rigorous philosophic systems of antiquity, in order to infer from them that this conception had always flourished. Let us only think of the seven heavens of Aristotle, and the crystal rock of which the seventh must have been composed, and it becomes evident that even the brightest geniuses were content with a very little stuff for the construction of their cosmoginal edifices. Even the positive *Pythagoras*, if we must believe what Porphyry says of him, did not hesitate to affirm\* that in the sound of a shield percussed, the voice of a dragon was concealed; and *Vinson* intimates, without academic reticence, the numerous and grave absurdities that blemished the elevated philosophy of the Arabians, such as the division of the heavens into ten parts and the fantastic functions which they ascribed to each of these parts. In the brightest genius there was therefore intermixed an ingenuous contempt for the law of cause, which choked the voice of reason and cast the thinker, without redress, into the arms of mysticism, before logic was awakened for its treatment. We must come down to *Seneca* to find the first doubt—only a doubt, not a denial—as to the solidity of the sky. What more? In the good old time of the sixth century, in the famous university of Salamanca, there was yet given from appropriate chairs instruction in magic in connection with meteorology; necromancy and alchemy, without anyone being found to laugh.

That symbolism has prevailed in every age, and that it is really a fundamental tendency of man, is proved by very many records. I shall note only a few, in which the ethnic coincidences are still the more surprising that they refer to legends altogether peculiar, or, as we might well say, specific. The fable of Prometheus, that is, of a hero of civilization who discovered fire and fell a victim to the gods, after having devoted the booty to the service of his fellow-men, is not a legend of the Greeks alone, but is found thousands of miles from the zone of their culture and language, among the Maoris of Gippsland, who ascribe the theft of fire to a man, who was afterwards changed into a bird. Elsewhere it is a falcon that steals the fire to make a present of it to men. In Nova Zembla, fire was under the power of Manika, from whom it was carried off by Mani with the assistance of a bird. The Ahts of North America relate that fire was snatched by certain animals from a fish that had the custody of it. The Egyptian story of the two brothers is, with a few variations, repeated, more or less, everywhere—in France, Italy, different parts of Germany, Hungary, Russia, Lithuania, the Peloponnesous, Asia Minor, Abyssinia, India, and among the Romans, beyond all suspicion of communication.

Baptism as a ceremony (an act so little natural) is far more ancient and more widely diffused than the Christian religion. The Germans immersed their children in water when giving them their names. Achilles was bathed in the Styx by his mother; and with the Persians, the Hindoos and the Egyptians, religious lavations were used in the most remote times. The same may be said as to divine consubstantiation, which the Christians raised to a dogma, in the Sacrament of the Communion, and it is met with in the traditional religion of the Cafirs, outside of all influence of missionaries.

Even the trick, well known to the Italians, of loading a city, a village or a personage with all the weight of national ridicule by making it the butt of a multitude of

jest, anecdotes and inventions, that represent it as the emporium of every stupidity, yet exists so universally, that Abdera, Calinopoli and Cuneo have their sisters of misfortune even in America and Asia.

If in these particularities man everywhere exhibits the same tendencies, the accord must, beyond all doubt, be much more accentuated in his fundamental psychical manifestations. Since then, modern mythology, through the labors of historians and explorers worthy of belief, aims at establishing, on the basis of this accord, the unity of human tendencies in the various epochs and the various races of mankind, it is my purpose to demonstrate, by recourse to the same fountains, that the same uniformity is verified between the sound man and the lunatic, but more especially the raving man.

We all carry within us the germ of delirium, because we inherit it from our forefathers, and because it never departed from the normal functionality of primitive man. Why this germ flourishes luxuriantly in some persons, and in others does not give forth a bud, we shall understand presently. In the meantime it is enough to have established the analogy.

## II.

Not one of the principal elements of paranoia has escaped our retrospective researches. The delirium of persecution, and especially that of poisoning, religious delirium, erotic delirium in both its forms, the platonic and the obscene, ambitious delirium and the hypochondriacal; lastly what is most typical, and as we hereafter will show, less known in paranoia; in short, all their symptoms are to be found, if we will only search for them, in the history of the ancients and in that of contemporary savages.

Having enunciated our thesis, it is now our part to search for the proofs of it, and these I have patiently and abundantly collected from the writings of persons who have not been animated by any preconception or engaged

in reciprocal opposition of opinions and objects, and yet are concordant here and there in the same or analogous testimonies. This circumstance augments the value of the documents I have here brought together, the scattered and involuntary declarations of faithful and quasi-passive expositors. Bastian alone alludes several times, but merely incidentally, to a few superficial resemblances between the savage character and that, not indeed of the paranoiac, but of the lunatic. All the others either have no thesis in view, or though they may have an object, it is quite different from that which I have in this memoir undertaken to elucidate.

1st.—*Delirium of persecution, Pantophobia, Personification.*—The invincible inclination of the paranoiac to invent persecutors in order to explain all that happens to him, is well known. To use the happy expression of Tylor, he thinks every *thing* around him some *personality*, just as the child that falls against a chair, scolds it, or as Xerxes flogged the sea because it destroyed his fleet. The paranoiac, the child and the primitive man vivify nature; and when afflicted by bodily troubles or by moral sufferings, they attribute the blame to a living persecutor, who is not even thinking of them or is not existing; their case is but a particular one of that process of personification from which in a field more fertile and more wide, religious myths have their origin. Every fact is an act and therefore supposes an author; this is the reasoning which the primitive man anthropomorphically deduces from his own acts, and above all from the sentiment of intentionality and voluntarily that accompanies his own actions. Hence, for example, the indigenous Tahitans think that not only the trees and the fruits, but even the rocks which tumble down from the mountains and crush them, have a spirit; the Negro who is about to undertake anything serious, commends himself to the first object he meets on his path, be it only a bone or a piece of wood, not doubting to find in it an intellect capable of understanding his wishes, and a will

ready to accede to them. More frequent than any other is the personification of evil. The Chinese child dares not to enter temples, because he believes they are peopled with phantoms with out-thrust tongues, staring eyes and threatening countenance. In Paris, there is the *moine borru*, that goes about the streets to cut off the heads of such children as put them too far out of the window. The adult Negro sees all around him a jumbling crowd of fetishes, coming and going. The Indians, who complete every natural phenomenon by annexing to it a Manitou that produces it, have similar visions.

The god, Horey, growls in the woods of Senegambia, calling for victims, and the mournful voice of the Wile is heard in the forest. The Calmucks hear the god Lun Chan whizzing through the air. A thousand dreadful demons assail the unarmed man and howl in his ears or drag iron chains before his eyes, move tables and benches, rock the cradles of the new-born, tear leaves out of books, upset vessels and rummage everywhere unwet. In the middle ages these were known and were distinguished by a thousand names, in the Netherlands, even the sun, the moon and the wind are wicked beings that devour Christians. It is stated that the peasants of Upper Brittany listen with terror to the tales told of the dead, who come back to life, and they firmly believe them. The belief in evil spirits is general in Ashantee, and farther to the south in Bengal.

The souls of the beheaded, spirits and goblins, the dead, the devil, witches, the fates, magars, sea sirens, dwarfs, etc., etc., live and even yet palpitate in the souls of the people of Sicily. In collecting their macaber stories, *Pitre*, who for twenty years had laboriously and intelligently studied the survivals of the popular marvels in his country, was unable to escape the feeling of consternation, stupor and chilling which struck him in presence of such a revelry of mysticism, which, when not moderated by the beneficent intervention of the authorities and thwarted by laws and customs of higher



enlightenment, must appear as nothing short of real delirium.

"In the middle ages," writes Arthur Graf, "all nature appears as contaminated and fallen into the power of Satan. She is demonized. The spirit of Satan pervades her and holds her in subjection. The friar who lives immured in his convent as in a fortress, contemplates her with a vague sense of terror, and he sees in her the marshaling of his numberless foes. The deep, dark forests, the frowning crests of the mountains, an immense rock hanging on the edge of a precipice, a horrid, gloomy valley, a waveless lake in the middle of a desert plain, a torrent that rushes foaming and groaning between overturned huge stones—these are to him the aspects of a terrifying scene, behind which the demons are weaving an immense and formidable net, and the impetuous potency of evil is every now and again breaking forth, and penetrating into his refuge."

Nocturnal persecutors, also, both male and female, so often spoken of by our paranoiacs, but especially by the female division—these obscene and mysterious beings, who would seem to be the product of a morbid moral filthiness, have their legitimate ancestors, not only in the cycle of Christian legends, but far away in the oral traditions of the islanders of the Antilles and of Nova Zembla, in the Navigators' Islands and Lapland. Belief in the existence of these lust-inspiring personages was so universal and so lively that *Saint Augustine* (in his work, "*Te Civitate Dei*," xv. 23) seriously discusses the matter without denying their reality, and *Lipsins* (in the seventeenth century) asserts that they were still very numerous.

2nd.—*Delirium of poisoning.*—The extreme precautions used by the paranoiac to keep his food pure, his obstinacy in preparing and cooking it by himself, his abstinence from everything excepting raw eggs, or milk just drawn from the cow, and finally, his absolute sitophobia, are the ordinary symptoms by which the delirium of

poisoning is manifested. In some cases, however, the fear of poison is often so merely instinctive and forgetful that the subject of it limits his precautions to a few ridiculous operations; though he reasons vigorously on everything else, his logic falls short in this matter, and permits him to fall into the most flagrant inconsistencies when he lapses into this delirium, which is more automatic than considerate, and is generated just as it is appeased, by a nothing. The savage exhibits the same fears and the same inconsideration.

In the province of Friesland there are families having the odor of magic, and they are able to transform every mouthful of food into a hurtful substance. The Egyptian is wont to hide very carefully the victuals he has procured, because of his dread of the evil eye. The Ovampi have the habit, when they eat in the presence of a stranger, of rubbing some butter over his eyes and of throwing water on his face, believing that this serves to prevent him from poisoning the food. The Abyssinian carefully closes the door, and lights a little fire, as an additional precaution every time he sits down at table. The people of the Hebrides do the same. Similar superstitions are manifested by the Maldives, the Bolandese, the Esquimaux, the Indians and the islanders of the Pacific. And are not the same facts revived on every re-appearance of cholera or any other epidemic among ourselves? What physician, on proposing a remedy on such occasions, has not encountered a look of distrust or a sarcastic smile from the six-hundredth poisoned man? This fear, however, vanishes with the cessation of the epidemic, but in the paranoiac it remains through life.

Whoever may wish to investigate more thoroughly the rôle played by poisoning, in the imagination of various peoples, may consult the records of Norse mythology, and then leaving northern Europe, let him pass to southern Africa, and record the reception which Schweinfurth met with in 1870 from Muusa, King of the Mambuti. This polite and hospitable sovereign always ate alone, and his

cook was jealously guarded by a woman, who forbade all access to her.

3rd. *Religious Delirium*.—No asylum is without its prophets, its eternal fathers and its madonnas; excepting the doleful enclosure, all remind us of that classic sample of a religious paranoiac, Lazzaretti, of Arcidosso. It is therefore unnecessary to enlarge on the delirium of religion. Few sentiments are so deep and essential in man as that which draws him to adore the unknown and the transcendent. In the very bosom of European culture, and despite the violent corrections of governments, religious mysticism, from time to time recovers its domains. Not merely a few suggestioned neuropathics, but entire populations, amounting to millions, who, in Russia, whilst we now are writing, being unable to satiate their fantasy with the too elevated and colorless principles of Christianity, irresistibly reject the path which an artificial civilization would oblige them to travel, and, returning to customs more conformable to their degree of intelligence, they cultivate with a fervor which is redoubled by opposition, a new religion, full of vitality and efficiency, which impel the proselytes to acts of fanaticism, most courageous, and most inconsistent with the instinct of self-preservation.

The *raskol* is split up into a thousand sects, which are formed around individual points of a rite. These sects patch up a liturgy, and they reproduce, like our paranoiacs, the sophistries of Bizantine formalism. The part of religion, now most neglected, but which, in the estimation of persons of good sense, proves so valuable to us by never being named, and which in our eyes has no value beyond its antiquity, is to the Russian sectaries an object of fervid interest, and the most lively controversies. With these people religion not merely exists, it also grows, displaying the activity of a vigorous organism and an exuberant vitality.

In the *raskol* is affirmed the resistance of a primitive people, confronting political and social reforms, of foreign importation, for which the people are unprepared. In all

these reforms, especially in changes to foreign customs, such as the law of the beard and the bearded, the *raskolnik* discovers only the work of the devil. Hence the cloister, isolation, flight into desert places, homicides, suicides on a very large scale, systematically carried out, and in many forms. Death by famine, by the baptism of blood, and of fire, destroys thousands of voluntary victims. Fathers and mothers, from a sentiment of religious piety, frequently immolate to the gods their consenting children.

But what is most interesting to observe is that these votaries are not recruited from among the abject and miserable, but belong to the richest and the most moral of the population, and they are the best contributors (? to the national revenue—*Trans.*) And that they are not at all poor in spirit, or led away by a few fanatic lunatics, is proved by their enormous number, which, according to Leroi Beaulieu, amounts to twelve or fifteen millions, though the statistical officials, who are interested in lowering the figures, register only a million and a half.

As to the rest of the people, the orthodox Russian, is not so fully emancipated from his ancient tendencies—and certainly the vulgar Catholic is not—as completely to rebel against them. Intermixed with the Judaic mythology, there yet exists in his imagination and his heart, the *vodiany*, or spirit of the waters; the *rousalha*, a species of naiad or national siren; the *lichii*, god of the woods, and the *domovoi*, the genius of the domestic hearth, and, finally, God, himself, is but the supreme magician.

In their songs, legends, traditions and rites the Russian people are substantially bi-religious; from beneath the Christian vesture the pagan lining peeps out. And thus it is with all nations and all individuals, in whom irreligiosity, scientific objectivity and the other intellectual habits of modern culture, have not displaced, but have simply been superimposed on primitive mysticism, which is ever ready to re-appear. Not alone mysticism, other paranoiac symptoms, also, which at first sight seem to be amongst the most monstrous, and the most repugnant to

the nature of man, lurk secretly, and re-appear and predominate in certain contemporary sects. Mutism, which is sometimes obstinate in our deliriants, is the fundamental canon of the *Silents*, recently signalized in the Lower Volga and Siberia. These mutes are, by choice so attached to their own faith that neither punishments nor transportation suffice to make them speak.

4th. *Ambitious delirium*.—There are few paranoiacs, even the most querulous, who are exempt from a morbid ambition, and all the maddish writers and sectaries are shamelessly presumptuous. Among savage tribes it may happen that Europeans are regarded as gods, but oftener they are looked upon as demons. Contempt is therefore more frequent than admiration. Besides, their acts of homage proceed more from surprise than from conviction, and they always leave a very wide margin for exaggerated self-esteem. In 1744, the Iroquois made various offers to the government of Virginia, to give Indian education to all the youth who were willing to accept it. Pride is very conspicuous in ethnical designations, as we have before observed, and these wonderfully concur with the glorious auto-denominations of the paranoiac. The Athabascans style themselves *Turné*, that is to say, men; the Arikarris, *Sahnish*; the Iroquois, *Oukwe*, which means the same, that is to say, gentry, or men *par excellence*; the Zingaro, in the same illusion, calls himself *rom*; lastly, as is universally known, by the Arii (a tribe of the Scythians), all the non-Arii were regarded as speechless, and therefore, merely brutes: to the Greeks all foreigners were barbarians; the Slavs did not hesitate to call the Dutch *niemcy*, or mutes, whilst they arrogated to themselves the divine faculty of speech. In a period not very far back, Pope Paul III., felt compelled to declare that the American Indians were men; their European conquerors did not seem to think so.

The tiles, prisms and cylinders of clay on which the Assyrian kings recorded their own great deeds, remain as an impudent self-glorification. These exalted potentates



always acted under the will and protection of the gods, of whom they were the chosen favorites; they speak on every occasion of their own majesty and potency, and of the prodigies they had accomplished; they are the kings of the world, the just, the powerful, the unequaled, the generals of numberless legions. It is a curious fact that the most modest of the inscriptions and eulogies is *Sin-Akhi-Grib*, which, perhaps, is also the most glorious.

The Roman emperors, who proclaimed themselves gods, had unconscious imitators among savages. Juikila-kila was wont to say, "I am God," and the reliable *Lubbock* adds, he was firmly persuaded that he was not a man as the others. And then, behold the Sultans! Are not they the shadow of God, the bright Majesty, the sacred Presence, the Asylum of the World, the Great One who sitteth on the royal cushion and hath the sun for his crown? It may be objected that most of these examples are the mirrored images of powerful personages, whose vauntings, though exaggerated, were not wholly irrational. But nothing is so universal as vanity. We are always assuming and self-satisfied in secretly contemplating and judging ourselves, and not many of us would sincerely wish to exchange with our neighbors. Pride and ignorance are always in direct proportion, and it is very fortunate that the exigencies of society oblige us to adopt a feigned humility; in other words, the pride of the strong silences that of the weak, yet the one does not fall short of the other.

5th. *Erotic delirium*.—This is a particular form of the ambitious delirium, which, if not too often as a lasting symptom, is almost always presented as an early episode in the life of the paranoiac, just as in the mediæval literature, alongside the languid trovatore, the sensual cynic strung together his verses, so find we in paranoia, the extreme expressions of sexual love—the platonic delirium and the obscene. Chaste, fatuous, sentimental and credulous, without any initiation, adequate to the winning of



real affection, if only platonic, of the damsel loved, the paranoiac most usually has never known her, or has never spoken to her; or he falls in love with an unapproachable princess, or it maybe with some old withered hag; and finally, whoever may be the object of his tepid desires, he is quite content with some excessively insignificant and ridiculous outward signs, which to any rational person would appear merely accidental, and not to be regarded as proofs of love returned. The characteristic of this form of paranoia, which we would style *azure*, is therefore an absolute absence of passion and seriousness, conjoined with a disgusting affectation of sensibility and energy.

Now it is impossible to observe a delirium of this sort without thinking almost involuntarily of the knights-errant, the gay science and the courts of love. Was not the first canon of the perfect cavalier that of renouncing the possession of his mistress? To her he dedicated his enterprises, with her he was united by a true bond of feudality, so as to become to her as a liege to his sovereign, but he might, yea, he *must* wed with others, and only with the beloved one was matrimony forbidden to him. Geoffrey Rudel was inflamed with the Countess of Tripoli, whom he had never seen. The attendant knights of the past century were but the last degenerate priests of this feminine worship.

It will be said that erotic sentimentalism, which is as common with women as with men, is an isolated manifestation of the Christian of the middle age; that it arises from a momentary aberration of an adolescent literature, and not from a fundamental tendency of thought. This is incorrect. To sigh for a great and potent being, who might raise us out of our misery, rescue us from our afflictions, comfort us and exalt us to her own heart, to await with ardent faith her coming, to be delighted with her arrival—is not this the sum total of every erotic romance? And is it not, at the same time, the canvas on which religious mysticism has always embroidered all

its legends? The Hebrews, Egyptians, Greeks, Indians, Persians, and even the masculine Germans of the North, all concurred in these delightful expectations, though followed by such manifest illusions.

If, ceasing to be manifested in a collective form, mystic sentimentalism is changed in the consciousness of the individuals into the erotic form; if the Redeemer becomes a lover, or Jesus becomes Lohengrin, this goes but to confirm the intimate relationship between mysticism and erotism, two things which, when the one does not generate the other, proceed, at the least, commingled. The artless optimism, by means of which the thing wished for is taken for the real; the thirsting of ideality and the facility of satisfying it at any muddy pool, or yet worse, with the mere sight of water—all this is quite characteristic of the erotomaniacs, not less than of the tranquil mystics. What wonder then, if the personage who must incarnate one or the other of these ideals, the religious or the sexual, should sometimes serve the double use?

But without recourse to these close associations, which may appear to be a dialectic subterfuge, history has more than once scented out the cavalier romanticism, far removed from European manners and the adorers of the Madonna, even among the warrior Semitic tribes in the desert. Antar, the legendary preislamite hero of Arabia, slew a man because he was wanting in respect to an Arabian woman. And even at the present time among the Bedouins of Nedjd, the custom obtains of enthroning on a camel in the midst of the tribe, a virgin, selected from among the most beautiful, to encourage to victory, and to cover the fleeing with sarcasms.

Parting with all sentimentality and assuming a decisively cynical aspect, eroticism attains to the delirium of coitus and the *phallus*. A similar worship, far from being limited to the history of sensual antiquity, is found among the rude populations of New Guinea, the Papuans, the Arabs, the Indians, and in the very land of *prudery*,

England. Fricco, third in the triad, with Noden and Thor, is no other than the god of sensuality, "*cujus simulacrum*," says Tacitus, when speaking of the Germans, "*they paint with a huge priapus*."

Half bears and half Amazons, an evident cross between the romantic ideal of chivalry and that of the sensuality of primitive peoples, but whatever it may be, always involved in mysticism, were the Valkyrie, who fought around Oden and goaded the warriors on to battle, offering themselves as a reward, in the Walhalla, to the fallen, but sometimes with an anticipation rather earthly, and not very correct, to the survivors also.

This belief in the possibility of carnal intercourse based on miracle is so rooted, that in the very seventeenth century, fourteen religious ladies swore falsely, but in good faith, that they had been seduced by a certain curate of Loudon to participate with him in the Sabbath of the witches; nor could all the fourteen be regarded as hystericals, or as victims of a propagated suggestion, for only four of them belonged to the same convent, and the majority were not yet nuns. On this head that holds good which we have before observed in relation to the delirium of persecution, and to the incubi and succubi, as to the faith, once universal in the existence of male seducers and mysterious sirens, whom *Tylor* has traced in the Antilles and Nova Zenibla, not to say anything of the writings of the fathers, which are crammed with them. A woman who was every night tormented by malignant spirits, in the form of serpents, is mentioned in the apocryphal "Gospel of the Infancy," in which the narrative is ornamented with particulars more or less indecent. Let us figure to ourselves whether this sort of obsession must not have been popular outside the classes of the erudite and the theologians.

6th. *Hypochondriac delirium*.—In paranoiacs hypochondriac delirium is more frequent than the erotic; it is a simple variety of that of persecution. What characterizes this psychopathic symptom is the mystical and

transcendent interpretation of the paræsthesias, or painful sensations, which may sometimes be real. Nor ought we to see in these interpretations, the effort of a mind cultivated and accustomed to the subtleties of reasoning, or of self-observance, for the most refined hypochondria has its antecedents in the most rude peoples. Among the Caffirs, yawning is the entrance and sneezing the quick exit of some prenatal spirit; and if the latter is a signal of good augury, the former is, on the contrary, a very sad one. According to Dalton, there is in Bengal an aboriginal tribe of anarian race, the *Hos*, in whose belief, all the diseases of men and animals proceed from one of these two causes, either the fury of a bad spirit, or the enchantments of a witch. The same, according to Codrington's testimony, is the fact in the New Hebrides. In New Caledonia, according to the report of Erskine, murdering witchcraft was practiced in 1853 by tribal enemies, and in the Andaman islands, by the influence of *Erem*, *Angola* and *Jurruwin*, evil spirits. The same ideas are professed by the Negroes of central Africa, according to *Duff* and *MacDonald*, and according to *Rink*, by the Esquimaux; and it is not for nothing that among the Redskins in North America, everyone wears round the neck, as a protection against diseases, a medicine bag, just as our forefathers wore ear-rings to protect them from disease of the eyes. In Congo, all diseases are cured by blowing against the wind, which is presumed to be the cause of them. In the Marquesas Islands, the evil spirit, in person, penetrates into the sick one, causing his sufferings; but as no one dares to confront so potent a being, the doctors, in order to get him to withdraw, coax him with soothing frictions, which are quite different from those of massage.

### III.

Besides the various deliriums which are the most known in paranoia, other more recondite and almost unfailing elements, which we learn to decipher in the

neologisms, and the symptoms which are detected by a minute clinical analysis, are frequently brought to light when we read with the eye of the alienist, the impartial pages of demopsychology. Of the number are *logolatRIA*, and especially the formalistic worship of *names* and *numbers*; the passion of the *enigma*, and that of *magic* and *conjurations*; the impulse to a *wandering life*; the *intercurrent episodes*, consisting in exaggerations of emotional states (as accesses of mania, melancholy or stupor); *double personality*, and *hallucinations*, which though they may be presented with the deceptive appearance of an accidental morbid phenomenon, yet have their counterparts in the history of men in a state of nature.

[NOTE BY TRANSLATOR.—It is here proper to observe that the author published in the preceding number of the *Rivista Sperimentale*, a memoir on the *neologisms* of the insane, the materials for which must have cost him a great amount of labor and research, though they may not have taxed his patience so much as, it is to be feared, they might some of his readers, especially on this side of the Atlantic. The neologisms are new coined words or phrases, chiefly issued from asylum mints. They, no doubt, sometimes by conventional compact, pass as current money with those who live in close intimacy with the issuers, but as the determined purpose of the inventors was that of concealing their thoughts rather than of imparting them, unless to a very select few, it was necessary to frame them so as to secure this end. They are, in fact, quite appropriate representations of the jargon shibboleths of lunatics, or the inane gabble of children; it cannot be necessary to extend this explanation for the benefit of the readers of the ALIENIST, the great majority of whom must be very familiar with the oracular deliverances of the insane.]

1st. *LogolatRIA*.—The chronic raver, just as the scholastic formalist, has a species of adoration for certain words. The paranoiac neologism is the rite of this worship, to which the term logolatry is quite appropriate.

In the eyes of the logolater, be he sane or insane, the word is something divine, in whose mystic bosom repose a thousand arcane meanings, generators of infinite wisdom, to him who succeeds in penetrating their mystic contents. The invention of a word is to these illusionists to propound and it may be to solve, a problem. The word, despoiled of all apparent meaning, as those of the last of our groups, has therefore a high paranoiac value, because it is, by him who created it, elevated to a divine formula. According to Origen words have, from first to last, a hidden power, which the magicians and the sages are permitted to discover and to utilize; but especially in the names of the gods are, syllable for syllable, contained the elements of universal truth. Tertullian and St. Chrysostom did not hesitate to declare that the word should be believed in and not our senses. To the Brahmins the name of God is an inarticulate *scientific word*, and he who pronounces it grasps the mystery which is concealed in it.

Our children also amuse themselves with empty words, pleased with them, admiring them, and singing them, without at all caring for their senselessness. They articulate and invent words for the mere pleasure of verbigeration, a pleasure which is perhaps the germ of logolatry. "*Tous les chemins vont a la ville,*" shouts the French child, "*lire tire lire, laire, taire laire ; est-ce que vous ne le savez pas ? lire lou fa.*" So it is with young people who, in the new pleasure of talking, neologize even uselessly, and hobble the unfortunate language with synonyms which complicate without enriching it.

The Australians, who are without expressions for the most elementary things, have plethoric and intricate dialects excessively rich in doubles. In certain American tribes, the brother is indicated in a different manner by another brother, and by a sister, and a younger brother is, in conversation, designated by an older one by a word different from that used by the latter in speaking of the former. With the Caribs, if directly asked anything, the



parents receive the names *baba* and *bibi* from all their children, without distinction; but if it is necessary to speak of them in their absence, the sons call the father *youmaan* and the mother *ichanam*; the daughters call the father *nouhouchili*, and the mother *nouhouchouron*. The Andamanc language varies the generic name of the child with the sex and the age of both the named and the namer: the verbal multiplication resulting is enormous.

Madame de Savigné, jesting, wrote of a certain treatise, that she heartily wished to have made a mouthful of it and swallowed it. This process would have been literally adopted, and with all seriousness, by more than one logolator to whom the book had been equally pleasing. The Zingari and the Mahomedans have recourse to stratagems of this sort, in order to cure diseases; Noferkeph-tah, after copying the formulas of the book of magic and loosing them out in water, could not see what better to do with them than to swallow them; a truly paranoiac expedient, if there ever was one.

Among the Abipones of Central America, the nobles disdain the language of the vulgar, and add to words prefixes and suffixes which change their entire aspect, just as modern children do in school; and as the Indians in Peru, so have the Eries in Polynesia, a sacred idiom, different from the usual; among the Caribs the language differs between the two sexes. The same spoliation of words, by doubles and trebles, is presented among our neologistic paranoiacs.

2nd. *Prejudices as to names.*—The great importance attached by paranoiacs to their own names is clearly seen in the fact that they very often change them, and they obtain from them forecasts of high destinies. At other times they read in the names of others, a threat against themselves, or a specious decoy. The autodenominations, which make a part of our collection, amount to nineteen, and they do not fail in surplus names for enemies and protectors. Not all the paranoiacs who

bedeck themselves with glorious titles and borrowed names, are slaves to vanity. In this *heraldic delirium* there is often, rather than vanity, a feeling of veneration for a symbol, and the blazon which in the present day is not aspired to, or respected, except as a mark of wealth or social influence, once had a worship almost idolatrous. The totem, the fetich, the stem, three degrees of the same scale; are they not?

The potency of a name among peoples in a state of nature, is generally recognized. The Caffirs, like the paranoiacs, often change their names, and in choosing a new one they take care to conceal its value. With the Samoïades it is a gross imprudence to name their own god whom they call *Nap* or *Non*, and it is strictly enjoined to have recourse, if possible, to periphrases, with a preciousness of language, which is at once rustic and paranoiac. Among the same people a new name is given to the adolescent on reaching puberty, but before selecting the name of a relative, they must ask his permission. The Russians do not dare to give a Christian name to any pagan. In the conversation of the Masai, the dead are never designated by the name they had in life, but receive a posthumous name, which is never changed. Among the Calmucks, when a name is to be given to the new-born, the father accepts that of the first animal seen by him, or the first word heard by him; not indeed that every word is alike fit for so serious a business, but on the contrary, because there resides in it a supernatural virtue, which is communicated to the infant. The Tscheramissi act similarly. Those who are present pronounce a series of names whilst the child cries, and the moment it stops crying the *last* name offered is chosen.

If an Indian in Brazil is asked the name of his family, he will reply by giving that of his sworn enemy, as does the paranoiac in subscribing himself *Antichrist*, under the conviction that he thus brings misfortune to him, and saves himself from it. The Arab children also are instructed not to make known their names to strangers.

In Polynesia it is usual to change names at every new treaty of friendship, and the same custom obtains among the Mohawks of North America, and among several peoples in South Africa. In certain provinces of Germany, just as among the Samoiades, the name of the Divinity was not pronounced, under the fear of his apparition; and the persuasion was general, that the destiny depended on the name.

3d. *Prejudices regarding numbers.*—Returning to the characters of paranoiac neologisms, we observe some of these that show in the neologists a special predilection for the numbers three, seven and thirteen—all prime numbers and eminently cabalistic. The superstition of numbers is as ancient as number itself, and as widely diffused as are the superstitions. In the benediction of the font, practiced according to the canons of the Eighteenth Council of Toledo, special invocations were sung by the catechumens, who were obliged to repeat them seven, five or three times, six, four or two persons being the number singing; and finally the entire chorus completed the ternary, quaternary and septenary numbers.

According to the Basilidian gnostics and the Egyptians, there were 365 intelligences interposed between our world and the upper one; and by this number the demons might, by conjuring them, be denoted. In the Apocalypse 666 is given as the number true, *par excellence*. The *philosopher's stone* was triune, not different from the *Nonio Trinio* of the *Triodologia* and other paranoiacs, entities that figure in our neologisms.

In the German mythology, the number of the Valkyrie, who took part in battles is prescribed, and it varies between three, six, nine and thirteen; and among the various names of Odin, were those of the twelve months of the year, presided over by twelve divinities dwelling in twelve different palaces.

The Hebrews regarded as sacred the numbers twelve and thirteen; hence the thirteen branches of the Edomites, the twelve of the Ishmaelites, the thirteen of the

Abrahamites and those of the Joktanites; hence, too, the twelve Apostles, twelve months, and the twelve tribes of the twelve sons of Jacob. If with this alchemy of numbers, the ancients, in their own way, embellished the past, and corrected history, what wonder that at a later date, they undertook to avail of it in predicting future events? The scholastic was not altogether exempt from this prejudice; and it was not by mere chance that the poem of *Dante* was divided into three parts, with thirty-three cantos in each.

4th. *Enigmas, Conjurations, Magic*.—The neologisms of paranoiacs become obscure and often undecipherable, because the relation which connects them with the thing symbolized, is most complicate and also most superficial. People but little civilized proceed analogously in their symbolical ideographism; they are very fond of association by enigma. A hawk on a post intimates the idea of the divinity; a feather of an ostrich represents their conception of justice. When we reflect on the abstruseness of such hieroglyphics, it is not to be wept over, that certain paranoic neologisms, equally obscure, must wait for their *Champollion*.

From the enigma, which may even assume a monumental form, as in the pyramids, the treasuries, the labyrinths and the scamander, proceed the conjuration, magic, and all those arts and manœuvres—paranoiac, savage, medieval—which, by means inexplicable aims at ends impossible; such as *alchemy, chiromancy, necromancy, lottery, astrology, hermetic science, aeromancy, hydromancy*, etc., etc., etc.

The Negroes of Calabar predict from the cry of the owl, whether their lots will be good or bad, according as they hear it on the right hand or on the left. With the Calmucks white falcons are the bearers of good fortune on the right, but of misfortune on the left. And as the haruspice had an opposite signification on the opposite sides of the body, so is it modified by its presentation, behind or before, above or below. In this prejudice the

credulous inhabitant of Siberia does not much differ from our paranoiac, who subjects everything to the antagonist action of the *voice* and the *froia* (*vide* Neologisms, Index 123, 124.)

Sneezing, yawning and spitting have, among various peoples and sects, a special efficacy, inasmuch as they permit to enter, or oblige to depart from the respiratory organs, the harmful spirits. The Caffirs, the Zulus, the Persians, the Tyrolese, the Celts and the Icelanders concur in this singular superstition, which has many proselytes among the paranoiaks who dread the *Peronenti* or the *Soffio del Dragoni* (*vide* 74, and others of our collection.)

In the Basilicate, the prayer commences with the exorcism of water. The French child that is caught cheating in play, makes amend for his offense by spitting on the ground, whilst his little comrades cry out, "*Eh bien, crache barat.*" Prayer itself is to children and the vulgar, but a magic formula, so that in them are found the tendencies and the proceedings of the paranoiac who invents deprecations and conjurations. In the middle age sortileges were objects of universal belief, and entire populations were regarded, and regarded themselves as gifted with magic power. Was this an isolated case, an accidental aberration? By no means: it was a universal fact, a law of thought, for we find it everywhere. The Mayas in Central America believe, as do all other savages, in magic; a magician can slay, with a look, any unlucky one who displeases him. The children, usually very amiable, of the Negriti, are not rarely very ill-tempered, in the filthy state in which the parents keep them, in order to preserve them from the evil eye. At the close of the last century there bloomed, as a reaction to the encyclopedia, a hermetic literature of the most curious sort, which three centuries before would have been normal. These are the last erudite manifestations of a tendency which to-day is affirmed, roughly, among the insane.



5th. *Nomadism*.—This is so frequent that it has merited in paranoia, the name of *errabond insanity*, and other similar names. The paranoiac is a born traveler, and he is often trapped into asylums very distant from his birth-place. In Russia the passion of the *mougik* for a wandering life is well known. The forest, as the sea, has its sirens, who render privations sweet and make him disregard the dangers into which he runs, with the phrenzy of the enamored. Delighted with adventure, thirsting for the unknown, neither severity of climate nor the hostility of peoples, repel the Zingaro, just like the paranoiac, from that wandering life, which reminds us of the migrations of antiquity, and seems to be a bold protest of nature against the sweets of civilization.

6th. *Intercurrent episodes*.—In the paranoiac there are developed episodically, acute processes of the psychoneuroses, without any relation with delirium. Superimposing on paranoia, it may happen that they remain there, and degenerating into chronic dementia, they thus abort the prior affections; sometimes recovery takes place, after their forming, in the course of the paranoia, nothing more than a parenthesis. These facts denote a predisposition, in the paranoiac, to acute processes of mental disease, and they proceed from a congenital dis-equilibrium of the affective functions. But such a dis-equilibrium and such a predisposition, do not pertain exclusively to paranoia, for we meet with the same fusions, melancholia or contemplative excesses, or, at the least, with manifestations but little distant from the episodes of which we have spoken, in the savages of every region. Let the reader judge: "The American Indians," writes Waits, "are men of great and strong passions. In play, in the chase, and in war, they pursue their special ideal with so much energy and perseverance, that we are astonished on contrasting it with the apathy, drowsiness and phlegmatic inertia to which they abandon themselves as soon as their aggressive impulses cease. They show that these states of overaction, which are often prolonged,



are not free of artifice; they pass, with the same exaggeration, into periods of profound calm and silence. They therefore pass from one extreme to another, and very much resemble the melancholic and nervous types (*sic*). This tendency to extreme emotions is also manifested in the indigenous American, in his extreme readiness to be terrified by insignificant causes, and to lose his sleep because of bad dreams, which disturb him, and in the moral domain because of his acute sensibility when confronting the judgment of others and public fame."

Not only the intercurrent episodes, but even sleeplessness, pantaphobia, vanity, a strange mingling of the somatic symptoms of the psycho-neuroses, with the psychological phenomena of paranoia, color this picture with such liveliness that the opinion expressed by this celebrated ethnographer, that "savages resemble the melancholic and nervous types," appears most appropriate. Maniacal exhaustion, according to other writers, is so common among the Negroes as to become, in their eyes, an indication of moral energy and perfection, so much so that the Bien, independent princes of the *Niam-Niam*, magnify their own authority by accesses of fury, real or simulated, and everybody knows what sort of a devil-possession being a Negro is, when he dances and poetically details his own great exploits; also what surprising exaltation the modern Hungarian exhibits in the intoxication—for so it well may be called—produced in him by music.

7th. *Double personality*.—Two of our neologists present more conspicuously than any of the others, the not very common phenomenon of double personality: *Gerardi*, who was for some time *Papeschi* ("Neol.," 193), and *Restelli*, who is at once *Restelli* and *Bonaparte* ("Neol.," 187).

Among savages the idea that everyone has a double is very common. The *ego* that is awake is supposed to be different from the *ego* that sleeps. Another duplicature is determined by death, which kills one of the two previous personalities, leaving the other unhurt, and this one (which is the *perispirit* of the Spiritualists) continues to live as a

spirit—a sort of fume-vapor—but with a life so material that meats and beverages suitable for him are placed in his tomb. It would seem that the conception of a double *ego* proceeds from the sight of the shadow—that unreach-able phantom, inseparable from man, who ends by regarding it as another self.

With the Dakotas of America, at least after death, the soul is divided into four parts: one remains, to wander on the earth; one rises into the air, a third flies into the kingdom of spirits, and the fourth remains with the dead body. It is not to be wondered at if these four spirits, all dwelling together in the living man, should sometimes disagree and so puzzle him that he might not know to which of the four he should give heed. It is not therefore correct to represent the change of personality as the loftiest of the peaks—the *ne plus ultra* of delirium—the tip-top of paranoia. In hypnosis the suggestion of another *ego* is one of the easiest things imaginable. It is often quite spontaneously developed in dreaming, without any necessity for ascribing it to the general mutations of cenesthesia, which, so suddenly manifested, would be inconceivable.

8th. *Hallucinations*.—It is useless to spend time over the nature and the importance of paranoiac hallucinations; all writers are agreed. To this capital symptom (be it the cause or the effect of delirium), at least eighty per cent. of the paranoiacs pay tribute. Who would, on the other hand, believe that gross, indolent savages, may, in like manner, without being taken with fever or infective diseases, become the victims of potent and terrible hallucinations? Yet demopsychology shows that this happens frequently. The converted Zulus see serpents with ferocious eyes; leopards in the act of springing on them, and enemies with long spears. The inhabitant of Greenland, in a contemplative state, sees trooping before him a procession of human and animal figures, which he regards as so many spirits. The medicine men of certain American tribes see the mouth, and touch the scales of a serpent, that, according to them, is the cause of *zoster* (herpes.)

The Esquimau who wishes to become *angikok* (magician), isolates himself, and fasts until an elementary spirit of nature consents to be his *familiar genius*; he then enters into commerce with fantastic beings, whom he sees and hears, and accepts as real—and then he returns to his people, to exercise the functions of a diviner, a physician or a priest. Among the Redskins, there are ceremonies which are usually accompanied by incoherences and hallucinations.

A missionary of the last century, *Dobrizhoffer*, a truthful and valuable ethnographer, though sometimes a little simple, relates that he was present in Paraguay at a strange magic ceremony; it was that of transforming, in the sitting posture, men into tigers. The crowd that contemplated freely all the phases of the metamorphosis, did not in the least doubt its reality, and was therefore the prey of a collective hallucination, to which—as the culmination of the magic—the narrator himself could hardly be a stranger. In fact, although he denies that he participated in the superstitions of those hallucinated savages, he sometimes expresses the suspicion that magic may be effectually exercised by means of the suggestion or assistance of the devil.

On the night after the first battle against the sons of Tarquin, the Romans were encouraged to retake arms by a very loud voice; they fought and conquered. In Scotland the cry of the dead is believed in; it is believed in because there is someone who has heard it, and continues to hear it, and he states that he found it just like the last moans of the dying. This cry is called *taisk* in some parts, and *wraith* in others.

Children would not participate, with so much liveliness and interest in the fictions that make up their sports, if in playing they were not half hallucinated. It is quite true that without any disease or strong emotions the most simple and primitive being may enter into a hallucinate state. The announcement of that child who distinguished with precision, in the sound of the bells,

the announcement, "*Hark! the Pope has arrived,*" has a strong imprint of probability. It is the same with the paranoiac when he converts his own merely subjective hearings, or real sounds altogether elementary into words, phrases or continuous discourse. Further, even in the ordinary mode of perceiving external objects, no one will have failed to observe how quick and vigorous children and savages are. The most informal sketch of a nose has for them the full value of an entire portrait, so that the world appears to them peopled with brilliant images, which escape the sight of the adult and the civilized. This perhaps, is the reason why the memories of childhood are so pleasing to us; and it is also perhaps a mixture of hyperæmia and hallucination, that induces the Negro to talk so often to himself, in long solitary dialogues, which on an alienist, journeying in the centre of Africa, might make him forget for a moment, his nostalgia of the madhouse.

These examples might be multiplied to infinity, so great is the concord and the abundance with which ethnographers and mythographers have related them. But without becoming ingulfed in quotations we hold it as demonstrated, that *all the germs of paranoia, without exception, pre-existed in primitive man.* But not from this fact should we assume that he was in all, and through all, the equivalent of the paranoiac. In what they differ, and what other characteristics should be conceded to the latter, in order to complete, with fidelity, the description, is that which we shall presently endeavor to settle, by summarizing in a brief conclusion, the result of our researches.

### CONCLUSION.

Two works of Theodore Meynert, but little known and rather brief, depict with masterly touches the psychological figure of the *delirious idea*, as this genial biologist represents it. According to him the idea of the raver is already preformed, in the states of an unconscious ele-

ment, in every normal brain. "The mental functions, which usually are associated, have the virtue of suffocating (we would say, of inhibiting) or of so elaborating it that no trace of it remains in consciousness, excepting rare and fleeting appearances, which have no importance. In order that the raving idea may acquire the energy and supremacy required to render it clear in consciousness, the devastating action of a mental disease is needed. The mental disease determines a twofold series of effects: 1st, it interrupts the normal associations; 2d, it facilitates by this means, the production of abnormal conscient images, which acquire all the greater intensity the less they are diffused to other territories. In other words the delirious idea, which lurks inconscient in the sound brain (we would say, and developed) attains by the sole fact of its isolation, the same intensity as the spinal functions exhibit when those of the brain cortex are silenced, and which certain muscles show when their antagonists are paralyzed. No longer then elaboration nor inhibition, on the part of associate processes; but free extrinsication in the field of consciousness, now disencumbered of correcting images, and consequently undefended." (Thus far, Meynert.)

This theory, intuitive rather than demonstrated, presents an evident lacuna. The delirious idea, if not a conscient process, at the least as an element of unconscious ideation, is here affirmed as pre-existing, and already prepared. But what proof of this, what argument, what indication? Manifestly none at all.

If we reconsider a little the semiopsychical documents which we have in our hands, however trivial may be the acceptance we accord to them, it is sufficient to enable us to educe from the theory of *Meynert* a series of supports, which seem to us a foundation and a clearness quite unexpected. The fact being established, that ideas and tendencies, altogether analogous to those of the raver, are met with—plain, conscient, active—apart from any mental disease, then have we exchanged into a *psychological*



*postulate*, that which was advanced by Meynert, only as a simple hypothesis. The delirious idea, we maintain, is so innate in man, that with some people it constitutes the most elevated expression of normal thought, which is greedy for the explanation of the genesis of natural phenomena. It is the first attempt, necessarily rude and mistaken, with which men of little experience and slender intellect try to interpret that which they see. Why do all these interpretations of nature, and with them all the mystic tendencies they have favored, fall, at a later period, into disuse, so as to become inconscient, and to surprise us as a monstrous novelty whenever they re-appear in the delirium of insane persons? It is because human thought is continuously progressing. Its evolution, both in the individual and the species, may be conceived as a series of acquisitions, or, as we would say with *Sergi*, of stratifications, which not only increase, but also transform the active assemblage of the conscient functions; and into this unceasing metamorphosis, not the covered-up inferior strata, but only the formation of the upper new strata enters. That is to say, the more recent mental processes and habits overpower and render obsolete the more ancient, and no longer permit their hereditary transmission, or their development, unless in a subservient form.

A perturbing cause may break up the equilibrium of ideation and restore to the delirious idea—slumbering in latent vitality—that predominance which it had when it reigned alone in the virgin consciousness of the primitive man; and then we have delirium in the clinical sense of the word, delirium which may be defined as a re-appearance, under a conscient and quasi-spastic form, of a superstition subconscient, in a developed brain.

A similar re-appearance may be effected in two different modes; that is: 1st, directly—from *intrinsic excess* of function, or, 2d, from *intrinsic defect* of the modifying or inhibiting functions.

The first takes place in those psychic degenerations, in which prejudices and mysticism are presented, and pre-



vail in consciousness, from an arrogance spontaneous and all their own. Not indeed that the degenerate brains are devoid of moderating functions, and unfitted for the psychical processes which we call superior, but merely that these functions are overpowered by the irregular and exaggerated development of some of the inferior functions or processes. The second is verified in the acute mental diseases and their chronic *reliques*, which frequently present the spectacle of a systematized delirium, altogether similar to the paranoiac form; not because of some anomaly of the psychic development, but rather from the fact that, under the influence of a cerebral affection, those functions which are last organized, and are, therefore, gifted with less stability, are the first to be suspended or terminated. Then, to use the saying of the *comari* (Neapolitan rough), "when the cat's away the rats can play;" not, however, from increased vitality, but from suspended or insufficient supervision.

Guided by such conceptions we have decided to construct a theory, which, though it may explain only as a dream the innermost machinery of delirium, has certainly the advantage of clearly showing its psychological genesis and of bringing into unison all its varied forms. This is not altogether superfluous, when we reflect that delirium is the true principal symptom of psychiatry, and that nothing related to it should be regarded with indifference by the alienist or the psychologist. Further, at the present, we cannot pretend to go. In fact, the material substratum, be it static or dynamic, certainly cannot unveil to us the characteristics which contradistinguish it in our eyes, when confronted with the substrata of others, perhaps more complex, but certainly equally connatural, in man. To search for such material characteristics is an undertaking quite as difficult and vain as that of determining the organic differences of men who speak different languages, or who disagree in tastes, or profess opposite political opinions.

Without, therefore, aiming at objects so Utopian, we

shall content ourselves with formulating our conclusions in the few following principles:

1st. Delirium is determined by the *appearance* and *supremacy* of certain images and tendencies, which may be summarized in the term *superstition*.

2d. Similar images and tendencies are found as a unique and undesirable manifestation of the primitive man, and they are yet inherited, but enfeebled in the developed man.

3d. Between the group of these primitive ideas and that of the more recent, there is in the *sound* and *developed* man, a disparity of energy and an *antagonism* of function, altogether to the advantage of the latter.

4th. The clinical genesis of the delirium—whatever it may be—consists in the *victory of the superstitious tendencies*, which return to their first post; by which the type of the intellectual constitution is so modified that, at the same time, developed and savage, it degenerates into a real caricature, and bears in its deformity the stamp of its *morbid origin*.

5th. The supremacy of the superstitious tendencies is effected, in the paranoiac, by a congenital mastery of development, and in the non-degenerate insane person, by a supervening *paralysis* of the superior functions.

Mysticism, the pivot of our theory, is then the element which we find sufficient for the differentiating of these three beings: the *primitive*, the *normal* and the *delirious* man; and to distinguish, among the delirious, the non-degenerate from the degenerate. In fact, though common to all these, mysticism is that peculiar something in which everybody, by differently employing it, finds a mode of making himself recognized by other persons.

To the primitive man it is the small treasure of a great poverty. To the civilized normal man it is the cast-off garb of consciousness, which is soon to be lost on the way; a last surviving memorial, about to be drowned in the unconscious. In the paranoiac it is the revival of an obsolete function that rises out of ruins; the vanquished

that again stands erect. In the non-degenerate insane man it is the deplorable residue of a disaster; the little and the worst that disease has spared.

Finally, with very different attributes, mystic prejudice belongs to every brain. Master, servant, rebel or survivor, it makes a part in some way or other, in every ideation. In the primitive man it intervenes as sovereign to govern all things; in the normal man it is reduced to a state of lethargy, as a poetic tendency, or an accessory play of thought; in the insane it reacquires, either by its own force, or by the paralysis of the contrary tendencies, once more the primary.

From brutalism to reason, from reason to delirium, and from one delirium to another, there are, then, not excluding the evident and undeniable differences in degree and proportion, such close relations as prove the universality, and the necessity of psychological laws.

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# SELECTIONS.

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## CLINICAL NEUROLOGY.

**CHOLERA IS A NEUROSIS: THERAPEUTIC CONSEQUENCES**  
(By Alexander Hackin, M. D., F. R. C. S.)—The word cholera, as we understand it, is a generic term, serving to designate different affections; viz., cholérine, cholera infantum, summer diarrhea, sporadic cholera morbus and Asiatic or epidemic cholera. These affections, generally regarded as distinct, are in our judgment of one character, and although presenting degrees, they bear the same etiological relations, are dominated by a common pathological principle, and consequently, may be subjected to identical treatment.

Moreover, a large number of eminent authors, Indian and European, have given expression to an opinion similar to our own. Orton, cited by Aiken, maintained in 1832 that cholera presents as many diversities of aspect and symptom as scarlet fever, for between serious cases and those of only ordinary intensity, a disparity fully as considerable is to be remarked.

According to Sir James Jayrer, cholera presents phases and symptoms, whose gravity varies from simple *malaise* to profound collapse. It is often stated that epidemic cholera differs from Asiatic cholera. To us, cholera is cholera, whatsoever be its manifestations; its epidemic character, its intensity, are only phases—accidents of character.

In his communication to the Epidemiological Society of London, Dr. Scriven admits that sporadic and epidemic cholera are of precisely the same nature, just as sporadic small-pox resembles the epidemic type.

Dr. Guérin read before the Academy of Medicine of Paris a note in which he maintains that the distinction made between the different forms of cholera is purely arbitrary, and that this affection exhibits special variations of intensity. Dr. Dutrieux Bey, of Alexandria, regards the distinction made between Asiatic cholera and cholera nostras (sporadic cholera morbus) as purely artificial and arbitrary. In a report on cholera, addressed to the Government of India, Surgeon-Major J. M. Cunningham says:

"An isolated case of measles or small-pox, differing from the numerous cases, constitutes an epidemic, and yet these affections, just as with cholera, have their epidemic and dormant phases." The opinion of Petenkoffer that the dejections of persons suffering from cholera or from diarrhea, are as capable as those of cholera patients of provoking infection, only confirms the etiological unity of this disease.

Practical medicine has suffered much from the invasion of new theories, as well as experimental methods. Traditional pathology has given way to experimental pathology, and the spontaneous maladies to those which may be artificially provoked upon the inferior animals. Etiology has assuredly been much simplified by the discovery of the microbe, but it is very doubtful whether scientific medicine has profited much by these methods; observation has been diverted from the right path of clinical observation and therapeutic experience by the fallacious charms of the germ theory. In most instances, it seems to have caused physicians to forget their mission, to have prevented the relief of the sick, and to have produced misconceptions of the disease.

Time has only confirmed the words of Trichum, when, apropos of the cholera bacillus, he adjured the members present, despite the murmurs of some, not to believe that this discovery definitely settled the question, any more than the knowledge of the bacillus of tuberculosis would exterminate pulmonary phthisis (Koch, Grancher, Saint-Martin). However, be the origin of cholera as it may—either miasmatic or bacillary, telluric or meteorological—its neurotic character is most clear.

Cullen, in his *Synopsis*, has ranged cholera and diarrhea under the order of neuroses and class of spasms, and Dr. Henry MacCormac, whose pupil I was during the cholera epidemic of 1834, at the Belfast Hospital, regarded this affection as provoked by a lesion of the sympathetic system of the abdomen. The results of observations and experiments, made since that time, only serve to confirm my conviction on this point.

Mr. Sedgwick attributes all the phenomena of cholera to the troubles produced in the functions of the centers of the sympathetic system. Delpech has found traces of inflammation of the semi-lunar ganglions in patients who had succumbed to cholera. Dr. Johnson admits that the specific poison acts first on the blood or the intestinal

tube, then on certain parts of the nervous system, particularly on the sympathetic and the nervous centers. According to Claude Bernard, the coldness and the symptoms of collapse, depend upon a considerable hypertrophy of the sympathetic nervous system.

The influence of the nervous system is accordingly very manifest even in the predominant symptoms, whether subjective or objective. The vomitings, and the numerous stools, evidently are connected with the attack upon the nervous apparatus of the stomach and of the intestines; the choleric crisis, the cramps, the vertigo, the anxiety, the spasms, the tremblings, have a nervous origin. It is to the vasomotors then, that we must refer the depression of the functions of respiration and circulation, the gravest symptoms of cholera. Proofs of this nervous origin may be found in the rapid deaths due to dry cholera, which are to be observed during certain epidemics, and in which the patients had enjoyed apparently good health; the fatal result being preventable by the use of hydrocyanic acid or the dilute virus of the *Upas antiar*. The prompt cures which we may observe in cases, apparently the most desperate, conflict with the opinion that we have to deal with serious organic affections.

Admitting this idea, it seems natural that MacCormac should seek to discover a remedy which exercises a favorable influence on the nervous system, and that with Carfisse we should seek, although without result, a means of acting on the sympathetic nerves without touching the remaining parts of the nervous system.

Later, Claude Bernard published his scientific researches which threw a new light on the pathology of cholera and the rôle of the sympathetic system in this affection. These investigations permitted the institution of clinical observations and experiments based on this physiological discovery, in order to discover the remedy sought.

Pursuing the idea of MacCormac, elucidated by Claude Bernard, it seems to me that we shall find in the antagonism of the pneumogastric nerves the means of checking the action of the sympathetic nerves in cholera.

But since 1866, there has been no epidemic of cholera, and I have been forced to test the theory practically in treatment of cases of cholera, or English cholera. In every case I observed that by stimulating the pneumogastric in the neck, or by developing its inhibitory power, the vomiting, the stools and the cramps were arrested.



The demonstration had not been completed when, during the summer of 1887, a very severe epidemic of cholera broke out at Malta. This mode of treatment was employed with a superiority of results as evident as in the less grave epidemic in which we had used it in England.

The simplicity of the treatment is a high recommendation.

In all attacks of cholera, whatever the stage, it is sufficient to apply with a brush the epispastic liquor of the British Pharmacopœia on the branches of the pneumogastric in the neck, on the mastoids, under the eye, covering three inches of surface. The effect is generally instantaneous; the stools, the cramps and the vomiting cease; the pulse regains its power and the warmth returns; the patient falls asleep, and all the morbid phenomena are annihilated before the vesication is to be seen.

In the crises of cholera these applications to the vagus seem to paralyze completely the sympathetic nerve in the stomach or the intestines. In general, it is preferable to produce the vesication on the right side. Coleman having demonstrated that the right pneumogastric commands the slender intestine: but, if necessary, the vagus of the left side can be put under contribution. The vagus is an inhibitory nerve and possesses an action antagonistic to that of the sympathetic nerve on the heart. By stimulating the sympathetic part of the heart, its contractions are augmented; but by acting thus on vagus, we can determine the arrest of the heart in full diastole.

The stimulation of the vagus gives rise to an important indication; that is, the re-establishment of the cardio-inhibitory functions of this nerve, which are evidently absent in cholera. The violent contractions and the palpitation of the heart cease; the energy of its cavities, especially of those of the left side, returns; the congestion of the pulmonary and cutaneous systems disappears. Simon and others have shown that in cholera the left side of the heart is generally empty, whilst the right side is distended and filled with blood. Sieluna and Bruce, performing autopsies on patients who succumbed at Malta during the epidemic of 1887, always observed the cavities of the left heart empty, and those of the right heart filled with blood.

George Budd, in an article published in the *Medical Chronicle*, Vol. XXI., reports concentric hypertrophy in cases of sudden death from cholera. He cites, besides, M. Jackson, who in a report on cholera in France, in 1832, notices the fact that the hearts of persons who succumbed, often presented hypertrophy of the left ventricle.

This antagonism of the vagus and of the sympathetic nerves was announced to the Society of Biology of Paris, in a communication read by M. d'Arsonval, and which was made a part of the unedited labors of Claude Bernard. It treated of the antagonism of these systems and of the nerves and compared their relative actions to that of the tympanic cord and of the salivary glands.

Chirmak the elder, has shown that with the dog the stimulation of the vagus is prevented by the concomitant stimulation of the sympathetic. On the other hand, according to Foster, the injection of the submaxillary glands, which follows the stimulation of the tympanic cord, presents a great analogy to the inhibition of the heart provoked by stimulation of the vagus.

From these physiological details, we may readily deduce the mode of treatment which I have proposed. The practical application of admitted physiological and pathological principles, and the discovery of constant relations of cause and effect, suggest the idea of a well-defined law in this affection.

The action of the epispastic liquor has in every case proved sufficient to arrest an attack at the outset, but, as in cholera, every moment is precious, great profit may also be derived from the rapid action of the galvanic current, and from mitigated cauterization by the Mayor hammer.

According to Prof. Pisani, Chief of the Health Service at Malta, cholera made its appearance on the island on the 25th of July, 1887, and the mode of treatment, which I have indicated, was employed on the 31st of the following August. In his report addressed to the Government, Pisani remarks that:

"In several cases, the amelioration was very rapid, sleep following the stimulation produced either on the right side or on both sides. Particularly in the hospitals at Zabbor, Zeitum, and Manod, did we employ for the same purpose powerful applications of the epispastic

liquor to the pneumogastric of the right side, even to both sides, and to that part of its course comprised between the mastoids. The action was marvelous, for the patient at once fell asleep."

Dr. Inglott, Surgeon of the hospital at Zabbor, says:

"Dr. Hackin has found a means of acting directly on the sympathetic nerves, sparing the other parts of the nervous system. This consists of the counter-irritation of the vagus. The treatment has been completely successful, and the results of my experiments made at Malta during the last epidemic, concord perfectly with the opinion of Dr. Hackin. It has often succeeded in grave cases where other treatment has proved futile, not only in my hands, but also in those of my friend Dr. Cannatacci, at the hospital of Zeitum. We worked together, and every day exchanged observations on this important subject. Dr. Hackin's treatment has often given us astonishing results, and my sincere conviction is that he enabled us to save several patients from death. I recall, amongst other cases observed at the hospital of Zeitum, that of a poor child of eight years, who was so cold that there seemed no hope of saving his life. All the internal remedies had proved useless. When I saw him in the morning he was dying; in the afternoon he was convalescing; and all this had been accomplished by profound vesication on the vagus."

I conclude, without hesitation, that the treatment of Dr. Hackin is the best and most prompt which can be applied in all dangerous cases of cholera.

Dr. Cannatacci, in his report on the cases observed by him at the hospital of Zeitum, observes that if this mode of treatment has completely failed in several cases, on the other hand, in the great majority it has yielded results so astonishing as to partake of the miraculous. He cites the cases in which it rendered the greatest service, and concludes: "The treatment of Dr. Hackin is the most useful in Asiatic cholera."

I conclude by citing examples of the action of this mode of treatment in the three principal divisions of cholera:

1. *Cholera Infantum*.—On Sept. 24th, 1884, I was called to Upton-Belfast to attend a child six years old, and arrived at half-past eleven in the morning. I found the child in the arms of its mother, and all its limbs swaying from side to side. He was enfeebled, cold; had

vomited and had repeated passages. They told me he had been seized at 6 o'clock in the morning, and had vomited at least every quarter of an hour before my arrival. The mother had given milk and lime-water, without result. I prescribed no medicine, but, after placing the child on its back, applied the vesicant liquid under both eyes and to the neck. At the end of a half-hour the child fell asleep, and slept all night. The next morning, about 10 o'clock, I found the child in its mother's arms, having had no more vomitings or stools.

2. *Cholera Nostras*.—Sept. 18th, 1883, Constable C. called on me at half-past eight to attend Policeman Banack. When I arrived he presented the following phenomena: Vomiting, feeble pulse, violent cramps, palpitation of the heart, great debility, coldness of the extremities, numerous rice-like stools. He told me that on arriving at the police barracks, he had been seized with profuse vomiting, then, after the lapse of a half hour, with numerous stools and cramps. The attacks succeeded each other every quarter hour. I administered no medicine, but applied the epispastic liquor under both eyes, assuring him that none of the symptoms would return. I saw him again at half-past ten; he was convalescing, and had no more passages or attacks of vomiting.

3. *Cholera Asiatic*.—Case related by Dr. Inglott. Malta: Giuseppe Jalt, 42 years, boatman, residing at Nicolo San Francesco Zabbar. This patient had been attending his wife assiduously. She refused the treatment of Dr. Hackin, and died of spasmodic cholera thirty hours after the attack. I was called to attend the husband, for he refused to be taken to the hospital.

One hour after the death of his wife, he presented the following symptoms: Intense diarrhea, rice-like in appearance, eyes glaucous, lips violet, body cold, voice feeble, pulse slender, respiration anxious, thirst intense, painful cramps in the lower extremities, general debility, urine suppressed.

*Treatment*.—Injections of ether; profound vesication applied to the vagus—the two sides and of the neck. Two hours later, I returned to see the patient, who had slept nearly an hour. The cramps had ceased, the pulse had regained its vigor, and the patient urinated readily. I was called again in the afternoon. The patient was still

feeble, but in full convalescence. The treatment had acted in a manner fairly miraculous.

These clinical observations require no comment, and it would be useless to dwell on the importance of the rapidity of treatment, in an affection where moments are so precious, or to direct attention to its soothing effects. The sleep which it produces and which succeeds to the most violent suffering, the re-establishment of the balance between circulation and respiration, tend to abort the malady and to oppose a typhic condition or secondary fever.

The happy results, obtained with this topical agent in all the phases of cholera and Asiatic cholera, confirm the presumption that these two maladies are only pathological phenomena of the same affection, as also the truth of the apothegm of Dr. Petra, of Athens:

The treatment of maladies is a part of their pathology. The nature, the power of the remedy, the modifications which follow its applications, are the surest guarantees of their nature and their tendency.—*Selected from Medical Age.*

HEMIPLEGIC EPILEPSY.—The difficulties that still beset the path of cerebral surgery are exemplified by a case related by Abbe, before the New York Surgical Society (*N. Y. Med. Jour.*) The patient, a man aged forty-four, had a mitral murmur; no paralyses, no deviation of tongue, no anæsthesia, pupils reacted to light, knee-jerk absent; the other reflexes present, the plantar exaggerated. There was a purulent discharge from the left ear, with perforation of the drum. Skin dry, tongue brown but moist; pulse 80, temperature normal. The man was somnolent. An hour after admission he had convulsive movements of the right side, beginning in the foot. Next morning he had a limp. After breakfast another convulsion of the right leg, followed by transient paresis and hyperæsthesia. The urine was acid, s. g. 1.042, with no albumen or casts, but 32 grains of sugar to the ounce. During the following week the urine increased from 40 ounces to 86; several attacks of anæsthesia of the right arm and leg occurred daily, with loss of power. He could stand but could not walk. No optic symptoms. Hesitancy in speech and difficulty in pronunciation. Mind dull, memory good. The convulsions recurred several times daily, with more pronounced aphasia, and extended



to the face (right side). Temperature  $101^{\circ}$  F., and evidences of mastoid suppuration. It was thought possible that there might be pressure upon the centers for the leg, arm, face and for speech, from perforation and extension of the suppuration. The mastoid was opened, and a loose requestum removed. The convulsive twitching continued, and on the third day following, the indication of irritation of the cortex being pronounced, with slow pulse, wholly localized convulsions and more complete aphasia, it was decided to trephine in front of the lower end of the Rolandic fissure. No gross lesions were found either at this time, or at the autopsy, five days later.

The conclusion was that this train of remarkably delusive symptoms resulted from the diabetic toxemia; the mastoditis determining the irritation of the left convolutions.—*Times and Register*.

MULTIPLE NEURITIS, OR BERI-BERI, AMONG SEAMEN.—Dr. J. J. Putnam reported about twenty cases of a disease resembling beri-beri, but possibly another form of multiple neuritis, occurring among fishermen in northern latitudes, and referred to a similar series of cases reported by Dr. F. C. Shattuck in 1881. By correspondence with physicians in the seaport towns, Dr. Putnam had ascertained that, besides the larger epidemics, sporadic cases had occurred from time to time. One physician had reported frequent cases of swelling and numbness of the hands, attributed to handling fish. The influence of alcohol and the metallic poisons could be excluded; and since the outbreak had occurred only now and then, the influences to which the seamen were habitually exposed could hardly be considered as the whole cause, though insufficient food had seemed to play a part in some instances. Most of the patients had recovered, but some had died.—*N. Y. Med. Jour.*, July 19th.

EPILEPSY IN ITS SOCIAL BEARINGS.—Epilepsy in its relations to marriage is of the highest importance. The physician is here placed in a very difficult position. He has his choice between betraying his patient's confidence and revealing the state of affairs to those interested, and of keeping silent, and thus allowing a grave injustice to be inflicted. Benedikt (*Wr. Med. Woch.*—*Deutsch. Med. Zeit.*) believes a general congress for medical ethics should



be called, for the purpose of pointing out to the physician the proper course to be pursued in such and similar cases. In Germany, a physician lays himself liable to prosecution if he reveals anything about a patient's illness without the latter's consent. We do not believe that the laws are so severe here, or if they were, that a jury would punish a physician for giving out professional secrets in such an emergency. An agreement by the profession on the course to be followed on such occasions would probably be of great effect in influencing proper legislation.—*Weekly Med. Review*, Aug. 23, 1890.

THE TETANUS GERM.—Dr. M. Reynier, in the *Revue de chirurgie*, gives the result of various experiments on animals with a culture of tetanus germs. In every instance, after the inoculation the typical symptoms were developed, and death followed in a short time. The microscope demonstrated the bacilli of Nicolaier in every case.—*New York Medical Journal*.

A CONTRIBUTION TO THE ETIOLOGY OF JACKSONIAN EPILEPSY.—In the *Archiv für pathologische Anatomie und Physiologie und für klinische Medicin*, Dr. K. Yamagiwa calls attention to two cases of severe cortical epilepsy in which *post-mortem* sections of the brain revealed disseminated patches of *Distoma pulmonale* in the cortex. Microscopic examination showed, in connection with the parasites, giant-cell and round-cell infiltration, thickened blood-vessel walls, and new connective-tissue growth. Further research disclosed the *Distoma* in the lungs.—*New York Medical Journal*.

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## CLINICAL PSYCHIATRY.

NEED OF PHYSICAL DEVELOPMENT AND PHYSICAL CARE TO LESSEN CRIME AND THE NUMBER OF CRIMINALS.—Dr. T. M. Dunagan (*Memphis Medical Monthly*, August, 1890,) says criminality is a mental disease. "Who can fail to see this that beholds a wretched criminal, answering for a hideous crime, whose life is but one long, dark day of distress and misery, made more miserable by constant and excessive manual labor, whose brother, inheriting the self-same nerve pathology, has for his portion an outbreak of insanity?"

After drawing attention to the facts that in times past

the insane were imprisoned, starved, scourged and burned because they were thought to be possessed of devils or bewitched, the writer says:

"I regard criminality as much a disease as insanity. Sin in all its forms is most closely allied to, if it is not actually, a diseased state which the subject himself has no power to control. Ask the periodic drunkard to explain why he should turn from the high and holy road of temperance to that of a moral brute. He will tell you that he has a peculiar and indescribable weakness at such times, a weakness which he has no power to overcome, but like fuel to fire, when once under the dominion of this slimy monster its wild and uncontrollable flames consume alike reason and self-control, making of such unfortunates physical, mental and moral masses of suffering and destruction. To me alcohol and opium addiction is as much a disease, *per se*, as is phthisis pulmonalis. We discard entirely—in fact we deny, the abuse of alcohol as being simply a violation of moral and social obligations, but upon the other hand modern research clearly sustains the hypothesis, that chronic or acute alcoholism is the sequence of disease, being as it certainly is, as much a diseased condition as any other abnormality to which an individual is heir."

The writer believes that much criminality and other forms of morbid brain action may be much benefited by a stricter observance of physiological laws—the rules looking to the cure of physical disease and the more perfect development of the physical man. The good will not be so apparent to the present generation, but will accrue to succeeding generations.

T. D.

EXHIBITIONISM; A SEXUAL PERVERSION.—M. Magnan has recently presented to the Societe de Medecine Legale the history of two cases showing that variety of sexual perversion not infrequently observed among men living in cities, known as "exhibitionists," or those having the propensity to expose their genitals in public places or to individuals, usually women, whom they meet in unfrequented places. According to the report of these cases in *Progres medical*, one of the subjects presented unmistakable hereditary defect, and both showed present typical degeneracy. The author classes these persons with the kleptomaniacs, the pyromaniacs, and the suicidal and homicidal insane. These degenerate beings are ordinarily

a great trial to the police, and are exceedingly shrewd in the avoidance of arrest; but imprisonment has little deterrent or reformatory influence upon them. They are seldom persons who have a steady form of employment. It is probable that they are psychically incapable of acquiring a regular trade or business, or of applying themselves to its pursuit.—*N. Y. Med. Jour.*

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## PSYCHIATRY.

BLOOD OF THE INSANE.—Dr. W. Johnson Smyth (*Journal of Mental Science*, Oct., 1890) concludes that in insane patients, there is a very marked deficiency in hæmoglobin. That the deficiency is greatest in secondary dementia. That there is no very marked difference in its amount in melancholia, epilepsy and parietic dementia, albeit, Dr. Smyth has found very high percentages during the exalted stage, that the number of red corpuscles in these psychoses is below the normal standard. That the number of red corpuscles is least in secondary dementia and greatest in parietic dementia. The variations in epilepsy blood-plasma density varies, becoming greater as convulsive seizures occur. These results contract somewhat with those of Dr. S. Rutherford Macphail (*Journal of Mental Science*, Oct., 1884 and Jan., 1885), who found that anæmia is undoubtedly associated in many cases with mental disease. The blood in secondary dementia is deficient hæmoglobin and hæmacytes, and deterioration advances with age. The blood of masturbatory lunatics is deteriorated in a marked degree. The blood is below normal in parietic dementia and the deficiency in the other states is too trivial to be of importance when it is remembered that the normal specific gravity of the blood is about 1055, and that in each c. m. of normal blood there is an average 5,000,000, it can readily be seen, in psychoses where the specific gravity is greater than normal, and where red corpuscles and hæmoglobin are deficient, that the blood-plasma is unusually dense. It is densest in secondary dementia and resembles the excessive density of senility, where mentality totters as a general rule is greater in the active stages than in the inactive and quiescent stages. While there is a deficiency

in epilepsy the decrease is not so marked as in ordinary dementias at the same age.

ANOTHER MIND-READER.—P. Alexander Johnstone, whose peculiar powers have of late mystified many Chicagoans, recently performed successfully the great feat of finding in a hotel register a name which had previously been determined on by a committee. It was following an attempt to do this that Bishop lost his life.

The committee drove in a hack from the Auditorium Hotel to the Grand Pacific Hotel by a difficult route, and going to the hotel register, selected a name. Leaving one committeeman, Mr. Charles Lederer, in charge of the register, they returned to the Auditorium, where Johnstone had remained in custody of one of the committeemen, so that there could be no possible apparent chance of collusion. They bandaged Johnstone's eyes securely. The sequel was astonishing. Johnstone instantly rushed down to the carriage and drove blindfolded to the Grand Pacific, avoiding cable cars and thousands of vehicles on the way, rushed to the register, turned the leaves rapidly, found the name and repeated it, giving number of page and date of month. Johnstone, on his way home from the hotel, was taken with a severe chill, which threw him into a cataleptic fit. His friends at first pronounced him dead, but after working over him for two hours, life was again perceptible.—*Weekly Medical Review*.

SUDDEN DEATH IN PSYCHOSES.—In an address at the annual meeting of Alienist Physicians, Dr. Brie, of Bonn, discussed this subject of sudden death taking place in lunatics, where disease had not been previously suspected. In four cases, marked disease of the cardiac muscular structure was demonstrable in the form of advanced fatty degeneration, with some arterio-sclerosis of the coronary artery in two cases. Myocarditic processes, with hypertrophy of the heart in the two others, and in all atheromatous degeneration of the aorta. Regarding the explanation of these degenerations he looks upon them as an expression of permanent trophic disturbances of innervation, and dependent on the cerebral disease that is the foundation of the psychosis, *i. e.*, provided there are no other more evident causes to which the changes can be referred.—*Med. Press*, Jan. 29, 1890.

HYPNOTISM IN BELGIUM MADE A MISDEMEANOR.—The Academy of Medicine of Brussels, have memorialized the Belgian Government in condemnation of all public hypnotic exhibitions, a regulation has been adopted forbidding them. The only uses of hypnotism hereafter legally to be practised will be medical and therapeutical. The practice of hypnosis on girls under the age of 18 years is made punishable by fine and imprisonment.—*Jour. Am. Med. Asso.*, June 14, 1890.

EFFECT OF THE PASTEUR INSTITUTE IN PARIS.—In the first five months of 1888 there were two hundred and eighty applicants at M. Pasteur's laboratory from the department of the Seine alone, all of whom had been bitten by dogs either known to be rabid or suspected of being so. This number was but little short of the corresponding total for the whole year of 1887, which amounted to three hundred and six.—*Medical Record* August 30th, 1890.

DOUBLE CONSCIOUSNESS.—Ansell Brown left his home, assumed another name, and lived some time without knowledge of his previous existence. On regaining control of his proper identity he returned home. Hypnotism was tried upon him. Under its influence the man's mind could be made to revert to incidents in its fictitious existence, while of his real identity he would then know nothing.—*New York Medical Journal*.

INSANITY IN ITALY.—It is stated that insanity is constantly on the increase in Italy. The proportion of lunatics to the entire population is nearly as one to one thousand, whereas seven years ago it was as one to one thousand four hundred and seventy-six. Among criminals the proportion is very great, being, in exact figures, 12.25 per thousand.—*N. Y. Med. Record*.

DANGERS OF HYPNOTISM.—Hypnotism is apt to be a dangerous mental poison, and as such it needs to be fenced round with as many restrictions as the traffic in other kinds of poison. Narcotics of any kind are not to be handled by the ignorant, and are liable to reckless abuse by the feeble in mind or body.—*Brit. Med. Journal*.



## NEUROTHERAPY.

BORAX IN EPILEPSY.—At the meeting of the Cardiff Medical Society, held April 3rd, 1890, Dr. Stewart, assistant medical officer at the Glamorgan County Asylum, related cases illustrating the value of borax in epilepsy.

1.—A girl admitted, aged 13, had epileptic seizure dating from birth, occurring in numbers varying from two to twelve per day, and chiefly by night. She had been under treatment repeatedly, but without benefit. Without treatment the fits during the first week were twenty-six in number; under borax they were reduced to twenty-four in the second, and eight in the third week. After an interval free from fits of sixteen days, four occurred on two successive nights; then, after another interval of nine days, a single fit took place, and since then there has been no recurrence of fits—that is, a clear interval of over a month.

2.—This patient began to suffer from nocturnal epilepsy at 18, and came under treatment five years afterwards. The case was complicated by serious cardiac disease and stenosis of the mitral orifice. Without treatment the average monthly number of fits were one hundred and one, and under borax this was reduced to twenty in the first month, seven in the second, one in the third, five in the fourth, none in the fifth, and one in the sixth.

3.—This patient had whooping-cough at 7, followed by hemiplegia, imbecility and epilepsy. The average number of fits a week, when no special treatment was employed, was 3.5, and bromide failed to effect any reduction; after two and a half years' treatment the weekly average had risen to sixteen. Under borax the weekly average during the first month was reduced to 15.5, and during the second month to 11.5. The diminution took place chiefly in the nocturnal seizures. In four, five and seven, in which the fits occurred both by day and by night, bromide exercised a decided influence upon the diurnal seizures, leaving the nocturnal practically unaltered, and in these benefit was experienced from the combined use of bromide and borax, three doses of the former during the day and one single dose of the latter at bedtime.

6.—This patient, epileptic and imbecile from birth, came under treatment at 35. The fits were of the noc-



turnal type, were uninfluenced by bromide, and were slightly diminished by borax.

Dr. Stewart concluded that borax exercised a peculiar influence over nocturnal seizures, and that it was in cases where the fits were entirely of that kind, that the greatest good might be expected; that bromide, on the other hand, exerted a more powerful influence over diurnal seizures, and that, in cases characterized by both day and night fits, a combination of these two remedies would be productive of most benefit.—*Journal of American Medical Association.*

THE TREATMENT OF DYSPEPSIA BY CANNABIS INDICA.—At the Academie de Medicine, M. Germain Sée read a paper on the Treatment of Dyspepsia and Certain Other Gastric Affections by Cannabis Indica. He said that the drug should be employed in the extract, at the dose of one-third of a grain three times a day. It acts by suppressing the painful sensations experienced after the ingestion of food, and excites the appetite. However, when an excess of hydrochloric acid is present in the stomach, large doses of bicarbonate of soda should be given at the end of the digestion in the stomach; that is to say, four hours after food had been taken. The Indian hemp had no effect on atony or dilatation of the stomach, but it acts favorably on spasm and vomiting of a nervo-motor origin. In the case of pyrosis the effects of the drug were very pronounced. In conclusion, M. Sée said that Cannabis Indica was an effectual sedative to the stomach.—*Med. Press and Circular.*

[Cannabis Indica and bismuth have been for many years past a favorite prescription in the management of apepsia nervosa in our practice, given one hour before meals or regular meal times, and the results have been most salutary. We have usually supplemented this treatment by gastric solvents after meals and constitutional remedies.—EDITOR.]

CORTEX EXCISION IN THE PSYCHOSES.—This operation was performed four times on an excitable and melancholic chronic dement with amelioration of the symptoms, also in one case of acute dementia with stuporous melancholia and one of irritable dementia. Good results followed.

Burckhardt's chief indication for operative interference

are auditory hallucinations. In one case of forty years' duration, a part of the temporal convolutions were excised and transient delirium resulted from the excision. In another patient, with similar hallucinations, this symptom partly disappeared after excision of a portion of the first temporal convolution. A second operation caused temporary aphasia.

Another hallucinated patient improved after operation as to the hallucinations, but died of meningeal hemorrhage and convulsions.

The gravity of the prognosis is the author's justification for this *dernier* operative procedure.—*Trans. Tenth Int. Med. Cong. Berlin.*

SPARTEINE AS AN AID IN CURING THE OPIUM HABIT.—In a paper on this subject in *La Bulletin Medical*, October 15th, 1890, Ball points out the objections to a sudden stopping of a large amount of opium. The principal dangers are delirium tremens, mania, sudden collapse, and uncontrollable sexual desire. In gradually diminishing the amount, several drugs have been recommended to supply the stimulation which the patient craves. The author has had very good results with the sulphate of sparteine. When the daily amount of morphine is reduced to a grain and a half, a small amount of sparteine is added, which is increased as the morphine is decreased until the patient gets two grains of the former a day, and none of the latter. The sparteine is kept up for some time, and then gradually discontinued. It may be given hypodermically, mixed with the morphine.—*Medical Age.*

PHENACETIN AS A HYPNOTIC.—It is almost insoluble in water, soluble in alcohol, almost tasteless, may be given like sulfonal, in wafers and compressed tablets, as a powder or with brandy. As an antipyretic and antineuralgic it is not as potent as antipyrin and antifebrin, but it is much less a cardiac depressant. In the insomnia of overwork, of nervous irritation, in febrile states, or from headache, it is a hypnotic of great value, in doses of five or ten grains, repeated if necessary. In sleeplessness of intense neuralgia, less than a gramme, repeated two or three times, as needed, is not likely to be effectual, the fact having been first ascertained that there is no intolerance of the drug.—*Boston Medical and Surgical Journal.*

COCAINE ANÆSTHESIA BY KATAPHORESIS.—Dr. A. Harris thinks kataphoric instead of hypodermic is the proper application of cocaine where local anæsthesia is required, as the toxic effects of the drug are less liable to be observed. He uses a ten per cent. solution, with which a flannel-padded positive electrode, corresponding to the size of the area to be anæsthetized, is saturated. The large negative electrode is soaked in salt solution and placed in a suitable position on the surface of the body. A continuous current of twenty-five milliamperes is then passed for forty minutes. Failure with this method is due to the fact that the currents are too weak, applied for too brief a time, that the operator does not understand the apparatus, or that a reversed current is used.

NOTE ON CHLORALAMIDE.—Dr. Warren B. Chapin (*N. Y. Med. Jour.*) says: The cases in which I have used chloralamide have been mostly those of insomnia of a very persistent character, in some of which all other hypnotics had failed. Although my experience with the drug has been confined mostly to one class of cases—those of insomnia depending on some nervous affection—I have seen enough of its action to convince me that not only does it fail to possess all the virtues attributed to it, but, owing to its uncertain action and the many unpleasant symptoms which it produces, it is inferior to most of the other new hypnotics.

BROMIDE OF GOLD IN EPILEPSY.—The monobromide of gold has been employed in Russia, Germany and Belgium as a nervine and anti-epileptic. Dr. Goubart, of Brussels, has reported that, in a certain proportion of cases, it has been better borne than any of the bromides. According to him the initial dose for adults should be one-eighth of a grain, to be increased gradually to one-fifth; for children, from one-twentieth to one-tenth of a grain. The drug is a yellowish gray friable mass, insoluble in water.—*Jour. Amer. Med. Association*, Aug. 2, 1890.

PAPINE.—John Muir, M. D., of Pierrepont Manor, N. Y., Member College Physicians and Surgeons, Ontario, Canada, Ex-Vice-President Ontario Medical Council, speaks of Battle's Papine as a prompt, efficacious and unobjectionable substitute for opium. A patient, more

than usually intolerant of other preparations of opium, bore it well and derived manifest benefit from its use.

PARIS PASTEUR INSTITUTE.—During the month of May, 146 persons were treated at the Pasteur Institute in Paris. Thirty-seven of these were bitten by animals in whom rabies was experimentally determined, ninety-one by animals whose condition was certified by a veterinarian, and eighteen bitten by animals suspected to be rabid.—*Journal American Medical Association.*

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### NEUROTOXICOLOGY.

POISONING BY ANTIFEBRINE.—“Dr. J. Vierhuff, of Subbath, in Courland, communicates to the *St. Petersburger medicinische Wochenschrift* the notes of a case of antifebrine poisoning, which show what dangers people run who dose themselves with drugs of this class. A healthy young married woman, who had been in the habit of taking antifebrine for headache, feeling the pain come on early one morning last summer, took, fasting, about a teaspoonful of the drug in some water. In about ten minutes, the headache not being relieved, she repeated the dose, which her husband remarked might prove dangerous. She consequently took a glass of milk and some alum water in order to produce vomiting, which she succeeded in doing, but immediately afterward giddiness, singing in the ears, throbbing in the temples, and a dull pain in the head, together with a feeling of weakness, came on, and the face assumed a livid hue. When seen four hours after the drug had been taken the face was a livid color, the lips blue, the pupils contracted, but the heart, temperature, and mental condition were normal. An aperient and a stimulant were ordered. Shortly afterward the patient became suddenly collapsed, the pulse could not be counted, and the breathing was very shallow; in fact, the woman appeared to be dying. The soles of the feet were brushed, vinegar was rubbed on the face, and cold water sprinkled over face and chest; also a mixture of camphorated oil and ether was ordered for injecting subcutaneously. While this was being procured several syringefuls of dilute spirit, which was all that could be obtained, were injected and the patient was brought round, though for three hours and a half her condition

appeared hopeless. Then, after recovering somewhat, collapse again came on, and recourse was had to an intravenous injection of a solution of common salt, which appeared to act most beneficially. In about fourteen hours after the drug had been taken the patient was out of danger. After that she continued to improve, though she complained of debility and pain in the limbs for a week. Dr. Vierhuff remarks that the serious symptoms were probably due largely to the patient's taking the antifebrine on an empty stomach."—*Lancet*.

POISONING FROM ANTIPYRIN.—The *Medical Record* says that seventeen fatal cases of poisoning from antipyrin occurred in one week in Vienna, during the prevalence of the influenza. In many of these cases the drug was bought by the victims themselves, without a physician's prescription; but, partly in consequence of these fatalities, it is now illegal to sell antipyrin except upon a written prescription from a physician.

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## FORENSIC NEUROLOGY.

WATSON'S CONCLUSIONS ON SPINAL CONCUSSION.—1. Concussive accidents never produced pathological changes in the cord unless great force has been applied to the spine. These cases are generally complicated with vertebral fracture or dislocation, rupture or stretching of vertebral ligaments, or distant injuries so severe as to quickly prove fatal.

2. The symptoms develop immediately, and are rarely intensified by morbid changes in the cord; exceptions, fractures, dislocations, and slowly developing hemorrhage causing pressure on the cord.

3. It is very difficult to demonstrate stretching of vertebral ligaments on living subjects. The lesion is frequently overlooked on autopsy.

4. Injuries of the cord, with visceral injuries in addition, develop symptoms dependent on the existing complication. The termination of the case rests on the character of the traumatism.

5. Concussive force, though remotely applied, frequently results in the production of severe and even fatal



traumatism in various organs within the three trunk cavities.—*Med. Record.*

LOMBROSO ON CRIMINAL ANTHROPOLOGY.—Lombroso argues that an attentive study of the physical organization of the habitual criminal shows him to belong to a degraded type of humanity, the product of hereditary degeneration. The peculiarities observed are not constant, but certain traits are repeated more often than with normal beings. By arranging these traits in the mind the type is conceived. Lombroso acknowledges that his type fails completely in 60 per cent. of his criminals; in a few cases, too, individuals have most of the marks without being criminals; and one case has even been mentioned of an unfortunate man who bore all the stigmata of criminality without being a malefactor. Nevertheless, certain bodily peculiarities are found to be commoner with criminals than with normal individuals, and the occurrence of a greater number of these peculiarities makes him approach nearer the type. The principal peculiarity of these stigmata are smallness of the head, asymmetry or abnormal forms of the skull, unequal size of the orbits, teeth irregularly placed, abnormal forms of the palate, and increased size of the lower jaw. There is also a great variety of irregularities in the shape and position of the external ears. The stature is generally low; left-handedness is commoner than in honest men, and in some cases the left hand is longer than the right, and the stride of the left leg is greater. The sensibility to pain is deficient, and the perceptions of taste and smell have been proved to be less accurate than with ordinary beings. The brain of the criminal presents miscellaneous irregularities; various anomalies of the gyri have been pointed out by Professor Benedikt and others, and the relative size of the cerebellum to the cerebrum is increased. Peculiarities in the skeleton, such as asymmetry of the thorax and deficiency in the number of vertebræ, have also been noticed. The type is much more decided with the males than with the females of the criminal classes.—*Brit. Med. Jour.*, May 24, 1890.



# EDITORIAL.

[All Unsigned Editorials are written by the Editor.]

**Address Notice.**—Please note that the editorial rooms of the ALIENIST AND NEUROLOGIST are at 500 N. Jefferson Avenue, St. Louis.

**Hypnotic Suggestion Before the Law.—The Eyraud-Bompard Case.—Was Gabrielle Bompard Influenced by Eyraud to Commit Crime?**—This trial, in its psychological aspect, is the most remarkable of modern times. No plea since the days of Cotton Mather, when witchcraft occupied the public mind and theories of obsession were offered in extenuation of reputed crimes, has possessed so much interest to students of psychology and psychiatry. The names of the medical experts appearing as witnesses on both sides of the case are those of men distinguished for their contributions to science and their studious research. Both Prof. Liegeois and Prof. Brouardel, the first testifying in favor of hypnotic influence, and the second controverting it, are eminent in the medical profession of France. The hypnotic school of Nancy is justly renowned, and the conclusion of Prof. Liegeois, a pupil of Bernheim, that Gabrielle Bompard was a hypnotic subject, carries with it the weight of an authority respected wherever hypnotism is studied and understood. But Charcot and Brouardel are likewise at least fully as eminent.

There seems no reason to doubt that the girl was susceptible of mesmeric influence, and more or less under the dominion of Eyraud, who was, at least the leading agent in the murder. Whether Bompard was a willing or unwilling subject does not appear from the testimony as transmitted over the cable. The girl's previous life, however, her early history of evil habits and neglected education requiring unusual restraints and coercions, as set forth in the address of the Procurator-General, would indicate that she was an apt and consenting accessory to the crime.

The condition of hypnotic criminal suggestion is a subject yet to be elucidated by science and before the courts. Notwithstanding the uncertainty which invests this case, great crimes may be committed under hypnotic

suggestion. This possibility has been demonstrated by Mesmer and his pupils, by Charcot and Bernheim, but before any of these, with the exception of Mesmer, the previous experiments of Braid, the Manchester surgeon, also show its possibility. There is no reason to doubt, from what we know of the possibilities of Braidism, or hypnotic suggestion, that crimes as well as the cure of diseases may be accomplished through its influence.

But crime under the influence of hypnotic suggestion would be what is implied in the expression—an act, every step of which would be suggested by the hypnotizer to the hypnotized. If all the steps necessary to the accomplishment of a crime are anticipated by the hypnotizing agent having a criminal intent, the subject would doubtless carry out minutely all the suggested details; but the intervention of any circumstance or eventuality not reckoned upon by the hypnotizer in planning the execution would undoubtedly upset entirely its involuntary execution.

The difficulty in the way of accomplishing crime under hypnotic influence would be in the operator's failing to anticipate every possible resistance, and providing for it by suggestion. It is owing to this fact—and it is fortunate that it exists—that crimes under hypnotic influence can very seldom occur. To illustrate: A villainous hypnotizer with murderous intent suggests to the subject of his influence that at a certain time he shall proceed to a certain house where he will find his proposed victim lying in a certain room, in a certain bed and in a certain position. The successive steps of this crime are all carried out by the subject, but the victim does not happen to be at the place suggested. The individual acting under suggestive control can do no more in the accomplishment of this intended crime except he awakens from his hypnotic trance and completes the act under the impulse of his own normal volition. This fact, then, would render the perpetration of crime under hypnotic suggestion ordinarily impossible. The subject, acting hypnotically, is liable to encounter in almost every instance unsuggested and unprovided for contingencies.

When the plea of hypnotic influence is advanced in extenuation of crime the presumption from what we know of this phenomenon would be against its entertainment. The scientific and the legal presumption would in such a case, I think, be identical—that is, against the theory of hypnotic irresponsibility. For the reasons here made

apparent I think that the startling fears expressed in many quarters as to hypnotic power being generally abused, are groundless, and that while crime may be perpetrated under its influence, the difficulties in the way of its operation are sufficient to hold its abuse in check. Nevertheless, in criminal procedures, as well as in civil ones, courts ought not to lose sight of this possible "undue mental influence." Its tendency is to develop a morbid condition of the mind and an unstable state of the psychical centers. This is a substitution of one disease for another, and is profitless in a medical sense. The practice of mesmerism destroys the subject's mental equipoise, renders him more or less abeyant to that of the operator, and obliterates his normal individuality. For this reason, to practice it indiscriminately, is criminal, and should be made so by the law, as it is in many countries. [We acknowledge our indebtedness to a city paper for having called out this editorial in an interview.]

**The Therapeutic Role of Somnavolism (Hypnotism).—**The term somnavolism, which we prefer as more expressive of the true hypnotic state than hypnotism or any of its common synonyms, Braidism, Mesmerism, etc., means an absence of the will of the individual by induced sleep. It means a condition of induced sleep in which only the normal will of the individual has taken its departure, and the will of another holds sway over his mental operations. Secondary to this the natural conscientiousness of the person somnavolized or hypnotized, and his normal mental spontaneity seems also abeyant to the operator's will and obedient to his every suggestion.

This is an abnormal and morbid state of the mind and will, and ought never to be induced in a person except for good reason, based upon a thorough knowledge of the mental powers, accompanied with a conscientious regard for the preservation of their integrity. Somnavolism as ordinarily induced, is a step in the direction of that gravest of mental maladies—insanity. When disease of the brain brings about such impairment and perversion of the will, its victim is insane. Hysteria is a perversion of the will coupled with mental vagaries, caprices and distortion of sense perceptions, not far removed from the conditions induced by artificial somnavolism. Hysterical hypnotism is not uncommon, and hysterics make the best and aptest subjects of the hypnotic influence. Somnambulism is a morbid condition allied

to it, which we treat remedially, and endeavor to prevent for the good of the victim's brain.

In short, all automatic states of mind and brain are abnormal and subjects for the consideration of psychiatric physicians. All alienists know how often these automatic states, of which the hypnotic condition is not the least, are the precursors of hopeless insanity. For this reason the hypnotic condition should not be brought about in an impressible subject except for grave therapeutic considerations, such as the substitution of the restraint power of suggestion over morbid habits in individuals in whom that power has been lost through disease of the nervous system, so far impaired as to be practically annihilated, as in dipsomania, aggravated hysteria verging on hysterical mania and allied states. The will-power in these conditions is already impaired to such an extent that somnavolism cannot impair it further, but, on the contrary may, by substitution, re-establish normal self-restraint over the morbid impulses and by being judiciously withdrawn, as neural stability returns under well adapted neurological treatment, may not permanently harm the unfortunate patient.

Other states of insanity may be justifiably treated in this way, likewise hysterical paralysis, hysterical blindness, narcotic inebriety, etc., when the diagnosis can be unerringly made, but never epilepsy or real organic blindness, as Mesmer once attempted in Vienna, to his discomfiture.

We have no moral right to diligently endeavor to arouse the hypnotic condition in those whose nervous systems are in so stable a state that instability has not already expressed itself, in some of those morbid conditions of will perversion, which render the subjects willing victims. We may substitute our own stronger wills to guide them in the direction of regaining their own self-control, but we have no right to bring about avolistic states—somnavolistic or hypnotic—which are always abnormal, unless there is pressing therapeutic necessity for such procedure, and then the remedy should only be employed by competent neurologists who know what they are doing, what they ought to accomplish and when they should withdraw the influence.

There is another aspect of somnavolism not hitherto dwelt upon, which claims consideration. It is the rôle it is capable of being made to perform in the detection of crime. If it be possible under any circumstances to

accomplish crime under its influence, it is equally possible to compass its detection by the same means. The secrets memory records of the criminal mind (*particeps princeps*, or accessory), may be unfolded under the psychical control yielded in the somnavolistic state to another. This is evident to all familiar with the subject, and needs no extended demonstration. It is the antidotal influence of this mysterious state.

**The Vascular Theory of Sleep.**—Brown-Sequard has successfully combated the theory, so ingeniously advanced by Hammond and others, that sleep is due to cerebral anæmia. The French physiological *savant* has often seen hyperæmia of brain, medulla and cord during sleep, and has also, with Goltz, seen sleep recur in animals deprived of their cerebrum.

Peripheral irritation inhibiting mental activity, exhausting the power of action of muscles, exhausting the diaphragmatic and cardiac power—in short, irritation and the natural sequent exhaustion is Brown-Sequard's rational explanation of the cause of sleep, and in our judgment this is the true *rationale* of this wonderfully conservative physiological process.

While admitting the contraction of the blood-vessels of the retina and of the cerebral lobes, implying anæmia of the brain, as a phenomenon of incipient sleep, he regards it as one of the conditions confirmatory of previous irritation.

The anæmia theory of the causation of sleep has served its theoretical purpose and gone the way of so many other theoretical misconceptions in physiology. This theory was never accepted by the writer, because it did not harmonize with all the facts of clinical observation, while physiological experiment only partly suggested it as a suitable explanation. The brain needs blood during its reparative periods, and it gets it in abundant quantity. The lower animals and man sleep well after full, satisfying, agreeable meals. Cerebral anæmia may come later as a sequence of completed recuperative sleep, and the brain does rest and repair in spite of the anæmia and hyperæmia. Hypnotics of the narcotic class, opium, alcohol, etc., do not deplete the brain of blood, while the bromides do. Yet the brain sleeps under both. It sleeps under digitalis, ether, chloroform and chloral, and before the circulation falls. Cerebral anæmia is rather



a sequent than an antecedent condition. The varying circulation phenomena attendant upon the different kinds of sleep are dependent rather upon antecedent or subsequent ganglionic and vasomotor impression, and sleep is a thing apart from the vascular phenomena attending. The spring that widens or narrows the cerebral arterioles and excites or exalts vital motor centers in the cerebro-spinal axis may be variously touched during the somnic state, according (perhaps) to the reparative needs of the exhausted organism, or the influences of its environments; and it is remarkable how much in spite of adverse environment, tired nature will accomplish in the securing of sleep, as for example the tired soldier sleeping on the march, or in the saddle, or on the battle field amid the roar of musketry and cannon. The circulation need not subside, and must not of necessity be reduced in order that sleep may come, notwithstanding a certain physiologically quiescent condition of that great cerebral irrigating mechanism—composed of the circle of Willis, etc., is favorable to the induction of the most healthy sleep—sleep is not necessarily induced through the vasomotor mechanism of the brain.

**A Much Needed Legislation.**—Under this caption an editorial in the *Southern Medical Record* is so appropriate to the needs of our own State, and to every one of the many States of the American union, not provided with a hospital and suitable laws for the care and cure of the inebriate, that we give it space in our pages, commending its suggestions to the Governor and Legislature of Missouri. When States license the selling of poison it should provide an antidote for the poison's victims. Free whisky and free inebriate asylums should go together.

"Now that the representatives of the people are assembled at the capital in the capacity of legislators, it is in order for us to make such suggestions as will more fully acquaint them with our wishes and necessities.

"Some provision ought to be made for the care-taking and reformation of the unfortunate inebriates of the State. It is a crying shame that nothing has been done in the Empire State of the South to give this greatly needed relief. The world is very uncharitable towards the victims of alcohol. Prohibitory laws have proven a failure; public sentiment is morbid on the subject. Temperance union movements have done much good in edu-



cating public opinion, but cannot reach these poor, ruined individuals. What shall be done with them? If inquiry be made it will show that a large per cent. of the crimes committed—especially the homicides—are due to the effects of whisky, or some other alcoholic liquor. The sale of intoxicants is licensed and the revenue turned into the public treasury, but there is no provision made to reform the miserable drunkard. Why is this? It is because of the *false opinion* that is abroad that drunkenness is a *sin* but not a *disease*. Such belief obtains only among the uninformed. But we will not stop here to discuss the question. We know whereof we speak when we say that inebriety is one of the most intractable diseases known to the science of medicine. It makes a physical, mental and moral wreck of the individual, unless restored by appropriate treatment. Leaving all other questions aside, we feel that if the State of Georgia would establish and endow an asylum for these unfortunate citizens, it would prove a most economic legislation. The cost of keeping and prosecuting criminals, and providing for the insane in the asylum, would soon diminish sufficiently to admit of the establishing of suitable hospitals for the inebriate without any increased expense to the State. Humanity cries out, the heart-broken wives cry out, and the worse than fatherless children cry out for something to be done in this behalf. Legislators have promised to make needed reforms. Here is their golden opportunity. We are confident that Governor Northen will stand by them; that the people will give them their hearty endorsement, and when they return to their homes, it will be said, 'Well done, thou good and faithful servant.'"

**Jefferson Medical College.**—The popular view, says the *Times and Register*, of the situation at the Jefferson Medical College, is shown in the following conversation:

"Why does not Jefferson bring Dr. I. N. Love, of St. Louis, here, to fill Bartholow's place—an able therapist, brilliant lecturer and immensely popular man?"

"It is not so much brains that are wanted as it is a fat contribution to the Building Fund."

We have nothing to say against Dr. Love's qualifications. On the contrary, we know them to be all the position demands, and that he would adorn the chair if

called to fill it it, but as a disinterested observer as well as interested friend in what pertains to the welfare of "Old Jefferson," we cannot believe the Faculty of this time-honored school mean to make wealth an essential qualification. Your informant, Mr. *Times-Register*, must have been afflicted with auditory hallucinations.

**Morbid Jealousy.**—There is now on the boards of the Palais-Royal Theater in Paris, relates the correspondent in that city of the *Courrier des Etats-Unis*, a comedy entitled "*Friends' Wives*," and repeated nightly with much *éclat*, wherein everything is strained in order to caricature the type of a jealous husband. The semi-maniac spies his wife incessantly. When, for example, she is permitted the luxury of a street promenade, the husband assigns to her, in minutes and seconds, the length of time she may be absent, while imposing upon her the route she shall take, and the places she may visit: The better to assure himself of her fidelity to his injunctions, he attaches to her a pedometer, which he carefully adjusts at her departure, and registers on her return!

The authors, and especially the auditors, laugh immoderately over this time-worn theme. But, says the correspondent, the medical profession do not laugh. On the contrary, they envisage this eccentric condition as one of serious character, constituting in fact a distinct mental disease. A French physician, he says, Dr. Emile Laurent, has just published a special treatise, as a result of his study of this morbid psychological state, wherein he paints the man or wife, who is pushed to extreme jealousy, as not only speeding along the high-road through the borderland of mental dethronement, but as having actually trespassed its boundaries.

This discovery is not a recent one, and if we mistake not, Dr. Dorez has preceded Dr. Laurent, in the Paris field, with a monograph on the same subject. As the work of Dr. Laurent has not yet come under our eye, we can only vouch for the fidelity of the translation of the two following cases, which, although alleged to have been scientifically observed, are but the versions of a daily newspaper, for the entertainment as well as instruction of its readers.

The genial correspondent of the *Courrier* deplores the threatened loss to the dramatic and newspaper world of the subjects of marital jealousy, and questions the present right

of the alienist to clothe them with the sanctity and panoply of disease. But he feels sure of his ground as a nosologist and declares that all victims of jealousy, whether morbid or normal, should be classed in the category of "persecuted persecutors." He is even so enterprising as to predict that if these interesting sufferers are finally relegated to the domain of the alienist the latter can only hope to cope successfully with such patients and their infatuations through "*la suggestion hypnotique*," to which remedial agency a nervous system already torn with "trifles light as air" should prove paramountly accessible.

CASE I.—A gentleman occupying a high social position was married to an eminently respectable and refined woman. He, nevertheless, soon fell furiously suspicious and misinterpreted her most simple and reasonable acts. One evening his wife, who was an excellent musician, entertained a drawing-room company, in his presence, with selections of piano music. The pleasure which her skillful execution, as well as her politeness conferred, elicited manifestations of applause. Throughout the entertainment the husband exhibited pain, and assumed an air of defiance toward the audience, which ended in his abruptly leading his wife from the room before the conclusion of the piano exercise. Thereupon followed, in private, a terrific scene, and a demand by him upon the poor woman for explanation by what right the listeners, who were mostly strangers to her, indulged in tokens of approval!

His subsequent decline was so rapid that, although a man of marked intellectual superiority, he sometimes beat his wife while imagining that she grossly deceived him, and lied in her expostulations. He would sometimes temporarily recover his mental equilibrium, and give way to copious remorse and despair at the indignities he had inflicted. But he speedily relapsed into his outrageous suspicions and behavior.

He retired with his wife to a remote country estate, the better to recover his peace of mind. But his delusion continued, and he constantly upbraided her with the concealment of her lovers, even there. His violence increased, and his wife sought a separation as a means of preserving herself from his maniacal fury.

CASE II.—Another case is related, here a woman, in illustration of the progress of marital jealousy into a state

of absolute and unmistakable insanity. This person is at present an inmate of the St. Ann Hospital for the Insane.

The woman, married to a Government employe, became speedily distrustful of her spouse. She began close espionage of him, strangely misinterpreted his conduct, and discovered grounds of alarm in his most insignificant goings and comings.

The husband at first treated her caprices as ridiculous pleasantries, which excited little else than his surprise. But the unfortunate woman, no longer mistress of herself, and under the ban of a fixed idea, was by no means in jest. She formulated against him the most absurd charges, and beset him at the door of the Government building, where she endeavored to enlist the sympathy of public visitors, haranguing them in most extravagant terms, and loading her embarrassed husband with charges of the most disgraceful liasons and odious conduct.

Her repeated acts of vengeance, for purely imaginary outrages, culminated in her consignment to treatment in an asylum.

W.

**Psychoses from Eye Operations.**—Dr. Frankl (*British Medical Journal*, 1890) discusses thirty-two cases of insanity after eye operation, which he divides into four classes: The first consisted of patients between thirty and ninety years old. The psychosis was an acute hallucinatory confusional insanity with auditory and visual hallucinations of a terrifying nature. The second class comprised seven patients of alcoholic antecedents. The third class comprised seven aged individuals in whom simple confusion and stupor, without hallucinations, followed operations on the eye. Finally, there were three patients in whom operation was followed by somatic conditions which caused death. During these affections inanition and delirium were observed. The operations were chiefly for cataract. Mental disturbance was also noted after iridectomy, operations for strabismus and enucleation of the eyeball. The prognosis of the psychosis was not always favorable; it might last for months and years, and frequently ended in dementia. These cases might be reckoned among those in which mental derangements followed surgical operations in general. They were, however, proportionately so frequent after operations on the eye that other causes had to be sought for: The numerous nerve-tracks connecting the eye with

the brain; eye lesions also occasionally produced psychical affections. Irritation of the sensory organs might also be reckoned among the causes of insanity; predisposition created by the depression caused by blindness. Dr. Frankl cited cases in which mental disturbances occurred during the time blindness was coming on, and recovery followed operation. The advanced age at which operations for cataract were frequently performed. This was, however, only true of a certain number of cases, as psychical diseases after eye operations had been also noted in young persons. The influence of the darkness cure was also very important, as darkness had a depressing influence. There were individuals who became affected with hallucinations on mere closure of the eye. Dr. Schmid-Rimpler had seen cases of mental disturbance from shutting out light without operation. Psychical affections followed operations which did not require the darkness cure, but it was positively certain that the longer the darkness cure lasted the greater was the disposition toward mental disturbances. M. Parinaud (*Reveil d'Ophthalmologie*, 1890) believes that the cerebral troubles should be attributed to the prolonged deprivation of light, and to the meager diet to which the patients are restricted. Grandclément and Galezowski consider that the atropine installations are not without influence. Chibret, of Clermont, sees the cause in alcoholism. Ledda relates two cases in which the delirium was clearly due to atropine. In one the delirium preceded operation. Sichel reported eight cases in 1863. Others were published during the same year by Borelli, Magne and Lanne. Saltini published four cases in 1831. Sichel ascribed the occurrence to the bandaging of the eyes. Borelli thought that it was due to the regimen and a certain predisposition to mania. Saltini declared that etiology is complex. He denied the influence of atropine, and deemed it the result of a special idiosyncrasy, darkness, diet and restlessness. Ledda recognizes several causes of the psychosis. He mentions the character of the patients, their predisposition to insanity and intoxication by atropine. The predisposition to cerebral trouble may be natural to the individual, or the consequence of the abuse of alcohol. This idiosyncrasy existing, darkness, the moral impression produced by fear of losing the sight, or the nature of the diet are sufficient to produce the delirium. Consequently the surgeon should



endeavor to forestall the occurrence. Ledda advises the administration of chloral and potassium bromide before the operation, or the institution of some preliminary treatment in order to test the susceptibility of the individual. Schnable, of Vienna (*ALIENIST AND NEUROLOGIST*, 1885), had twelve such cases result in one hundred and eighty-six cataract operations. In his opinion senility is a predisposing factor. Landesberg (*Journal of Nervous and Mental Diseases*, 1886) had three similar cases to those of Schnable. Kiernan in discussing these cases (*Medical Standard*, 1888) ascribed them in great part to the same causes which produce mental symptoms after other operations; agitation about the results of the operation, senility and antecedent predisposition, hereditary or acquired, or resulting from periods of evolution, such as puberty or involution such as the menopause or senility.

**Cystorrhagia in the Insane.**—Dr. Manton (*American Lancet*, 1890) reports the case of a middle-aged female melancholiac under treatment in the Eastern Michigan Insane Hospital, who had been in poor health physically, and shortly after admission began to suffer from morning sickness and vomiting. Occasionally the vomiting would appear at other periods of the day. About ten days before he saw the patient, an abdominal swelling which extended nearly to the umbilicus, and was hard on pressure and dull on percussion, was discovered. As the patient was obstinately constipated, an ordinary enema of water was given. The dejection that followed was copious, and the vessel contained, besides the feces, a quantity of blood with several clots. When the woman was put to bed again, it was noticed that the abdominal tumor had disappeared, and as she still continued to "flood," it was thought that an abortion might have taken place. The flowing continued for several days, and there were numbers of clots, apparently from the vagina, found on the napkin. Pain and tenderness in the vesical region and the discharge, at this time, of a copper-colored, highly offensive urine, indicated bladder complication, and this organ was daily washed out with a warm antiseptic lotion. At the time of Dr. Manton's visit the patient was in a feeble state, but there was no apparent cause for the condition save a general flagging of vitality. The abdomen, especially in the blad-



der region, was quite sensitive to pressure, and there was a terrible stench from the bladder discharge in spite of the utmost cleanliness and the use of antiseptics. He could detect no swelling, although the skin of the abdomen had the appearance of that of a newly-delivered woman. The uterus was not enlarged; the cervix was hard and slightly lacerated, but the os was not dilated. The bladder was hard and corrugated. The only abnormal condition found, aside from the bladder-thickening, was a small firm nodule behind and apparently attached to the uterus. On account of the exceedingly offensive discharge from the bladder, and to explore its cavity to determine the presence or not of fungus growths, he next day dilated the urethra. Neither new growth, dilated veins (hemorrhoids) or ulcerations were found; and the vesical mucosa, as determined by the endoscope, was of a pale gray color. The patient reacted well from the anæsthetic, and for a time seemed somewhat improved by the operation, but she finally sank, and died three days later, apparently from exhaustion. The treatment of the case consisted principally in washing out the bladder with antiseptic lotions, and sustaining the patient with the most nourishing and easily assimilated foods. Dr. F. W. Brown, Pathologist to the Hospital, failed to discern any morbid changes in the abdominal viscera except in the bladder walls. The mucous membrane of the viscus was of a dirty gray color, and the entire wall was enormously thickened—in places as much as one-half inch. There was no indication of hemorrhage, either on the surface of the membrane or into the substance of the walls. The female bladder is capable of somewhat greater distention than that of the male, hence cystorrhagia from all sources would be found to be more frequent in the former than in the latter. Dr. E. W. Christian has reported a case of a male patient who had been ailing for some time. One day the doctor's attention was attracted by the peculiar appearance of the abdomen, which on examination proved to be due to the distended bladder, which reached the umbilicus. The catheter was passed and between two and three quarts of urine removed. Following this, the patient suffered a good deal for several hours. On the following day the catheter was again passed, and about a quart of dark coffee-ground-colored urine withdrawn. This color remained after filtering the urine, showing that the blood was thoroughly

disintegrated and its coloring matter set free. At the next visit the patient seemed to be doing well, but five minutes after the doctor had seen him, he expired suddenly. At the autopsy the bladder walls were found to be thickened from one-fourth to one-half inch, and the mucous surface was covered by a layer of blood; and throughout the mucosa were punctiform hemorrhages. Both ureters were considerably dilated. Dr. Manton is of opinion that sudden withdrawal of urine from a distended bladder is a cause of cystorrhagia and hemorrhage. As urinary accumulations are frequent among the insane this indicates caution in their removal.

**Our Vacation.**—A part of our vacation during the months of August and September last, was agreeably spent in visiting some of the friends in the specialty of psychiatry who live near where our family was domiciled. While they were in Boston we had an opportunity of visiting our venerable friend, Pliny Earle, at Northampton, who is spending the evening of his days with his books and his friends at Northampton in the great institution which will be his monument. He is the guest of his most worthy successor, Dr. E. B. Nims, to whom we are indebted for many courtesies. In Dr. Nims, the present superintendent of Northampton, Dr. Earle's mantle has fallen upon most worthy shoulders.

Northampton is all that Pliny Earle made it, and its friends need have no fear so long as Dr. Nims remains in charge, of any retrogression in its usefulness to the insane of the Old Bay State.

Dr. Joseph Browne, of Barre, has also built a monument to his philanthropy and skill, of which his friends are justly proud.

In the beginning he constructed more wisely than he knew. The philanthropic and skillful work he and his estimable wife have done can hardly be estimated. It is a work of which a commonwealth might be proud, though only one unaided man has done it. We were gratified at what we saw at Barre, and especially at finding Dr. Browne in good health, with a fair promise of ability and strength to continue his good work for years to come.

We found Kerlin, too, at Elwyn, in the midst of his work, enthusiastic, earnest and capable as ever, though it was vacation season. He is a worthy disciple of Séguin. If Pennsylvania should look about her for a

monument to Kerlin when he shall have rested from his labors, she will find it ready built in this noble institution that graces the highland environment Media. His work will surely live after him. It is such work as never fades.

We found the New Bloomingdale Asylum, at Worcester, in splendid condition. It is built upon a most healthful and beautiful site, commanding as picturesque a view as that of any institution of its kind at home or abroad we have ever visited. We acknowledge our indebtedness to Assistant Physician in charge for courtesies, and regret the absence of the superintendent.

An attack of the *grippe* and the illness of one of our family prevented further incursions among the Massachusetts brethren, as it prevented our contemplated visit abroad the past year, else we should have visited Drs. Cowles, Fisher and others in the same work in Boston and vicinity.

A visit to the Jersey coast for sanitary considerations brought us near to Philadelphia, and we took advantage of the opportunity to revisit the institution where Kirkbride so long lived and labored, and where Ray walked about not many years ago, the pride and glory of his *confreres* in psychiatry.

We found Kirkbride's old hospital flourishing and prosperous as of yore, with the urbane and accomplished Chapin in charge. This historic institution, under the new hand that directs it, is filling its full measure of usefulness.

Chapin has made some innovations in consonance with the advanced demands of our day, as our readers know from his reports, and the public and professional expectations of Dr. Kirkbride's successor, based upon their knowledge of his successful management of Willard, have been fully realized in his work at Philadelphia.

We found the Insane Department of old Blockley in excellent hands and much improved under the administration of Dr. Hughes. There is apparent at Blockley a more liberal awakening of those whose duty it is to provide for the poor insane, as to their needs and the duty of the authorities towards them. It is gradually dawning upon those who have the care of the indigent insane that liberality towards them is the wisest economy. It promotes their cure and refits

them to care for themselves. It makes them less helpless, consequently requiring less care in their affliction. It gives an atmosphere of cheer and hope in their environment, and thus it rescues from despair.

Liberal provision for the State's or city's poor insane is a wise and prudent economy. It blesseth the source that giveth and the creature that receiveth.

**Koch and his Lymph.**—The eminent Berlin bacteriologist has evidently (in Western mining parlance) made a "rich find," whether his wonderful and yet mysterious lymph shall prove a perfect cure of consumption or not, its effect on lupus alone being a contribution to clinical diagnosis which will immortalize its discoverer. To discover a remedy which has a neurotic affinity for tubercle marks an epoch in the clinical medicine of the nineteenth century most brilliant, even though the wonderful lymph should not prove to possess, after a thorough trial, all the therapeutic power attributed to it; and auxiliary therapeutics will doubtless have to be appealed to, to perfect and make permanent the cure of phthisis pulmonalis. The lymph is hardly destined to supplant the mountain resorts like those of Colorado or South Carolina, or certain latitudes on the sea, but it will supplant the sanatoria on the hill-tops and make recoveries in now hopeless cases certainties. *Es ist wunderbar.*

This is the recent testimony of Sir Joseph Lister, who after having visited the Berlin lion in his lair, says: "The effects of Koch's treatment upon tubercular diseases are simply astounding. As an example\* he cited cases of extensive lupus of the cheek, in which two days after the injection the diseased surfaces became covered with crusts of dried serum, with no inflammation elsewhere. In cases of strumous glands in the neck the injections caused swelling of the glands with redness of the skin over them and pain. In gelatinous disease of the knee-joint similar effects are observed, only the tubercular tissue being affected.

The systemic effects which follow the injections are severe for a few hours, and consist in transient fever, pains in the limbs, shivering nausea, and sometimes vomiting. The usual dose of the lymph is one-thousandth of a gramme diluted with water to one gramme. The method

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\* *Vide* Abstract from an address in the *London Lancet* of December 13, 1890; published in *Medical News Supplement*, December 20, 1890.

is useful in the diagnosis of suspected latent tuberculosis. The therapeutic effects on lupus are separation of the crusts, leaving a more or less sound scar. In tubercular joints the swelling diminishes. In phthisis the sputa becomes scantier and more mucous, the bacilli diminish in number, the sweats disappear, the patient gains in weight, and the physical signs of pulmonary tuberculosis vanish. The important questions are, How far are the effects permanent, and What are the limits to the curative power? Diseased tissue is expelled by sloughing or is absorbed; spontaneous expulsion of deep-seated caseous masses being impossible, fresh infections would demand further and indefinitely prolonged treatment for the production of immunity from tubercular infection.

If it is true that the living but diseased tissues surrounding the tuberculous masses are acted on by the remedy, and are rendered capable of resisting the development of bacilli, then caseous masses would remain harmless as regards further infection, and tubercular disease would be definitely cured, for immunity is wanted to make the treatment perfect. Immunity has been attained in guinea-pigs by very large doses, and perhaps could be attained in man by gradually increasing the size of the doses. Acquired tolerance is best shown by the greatly increased dose borne after several injections. It would seem probable that by steadily pushing the dose a degree of tolerance might be attained equal to immunity.

The eyes of an eager, expectant, wondering world, are turned towards Berlin, and thousands of hopeful consumptives and the medical men of the world are anxiously waiting to learn what are to be the real fruits of Koch's still uncompleted bacteriological labors.

Besides the already announced possibilities in phthisis, Sir Joseph Lister "saw in the case of two of the most virulent infective diseases to which man is liable, the course of the otherwise deadly disease cut short in the animals on which the experiments were performed, by the injection of a small quantity of a material perfectly constant in character, an inorganic chemical substance, as easily obtained as any article in the *materia medica*. Not only this, but by means of the same substance these animals were rendered incapable of taking the disease, and under the most potent inoculations perfect immunity was conferred upon them."

These results, taken in connection with the previous demonstrations of Pasteur on the earlier discovery of Jenner,



give us reasonable hope for therapeutic victories not far remote which shall mark the present century as the grandest one for good results to the race in the history of medicine, many and mighty advances.

**Hypnotism.**—Certainly much unjustifiable experimentation with this subtle agent has been resorted to. Granting that with it we are capable of inducing sleep in the patient troubled with insomnia, or of stopping the various neuralgic aches and pains, the good result is not more than counterbalanced by the baneful mental impressions which are produced. Who can doubt that the man or woman who is frequently so powerfully influenced by an operator as to become unconscious at his slightest suggestion must sacrifice much of his personal independence and force of character? Is it justifiable to cure a patient of a neuralgia by means of an agent which may leave him a confirmed subject of hypochondriasis or hysteria? We are well aware that the advocates of hypnosis will strenuously controvert this proposition, yet it remains for them to prove that it is not so. Until it is proven we think it behooves the investigators of hypnosis to proceed cautiously in the way of experimentation.

Dr. Norman Kerr, in a paper before the British Medical Association, expressed the opinion that hypnosis was only a distorted cerebral state, and that brain and nerve deterioration with mental and moral perversion were likely to follow its frequent repetition. In the discussion which followed Dr. Kerr's paper, Dr. Hack Tuke cited cases that had been directly benefited through the agency of hypnosis.

The whole subject is yet in a chaotic state; and while we would not wish to see investigation cease, yet in view of the possibilities for harm there be in hypnotism we would wish to see great caution and circumspection used in experimentation.

As to the employment of hypnosis by the laity, we believe that the profession are a unit in opposing it. France, Belgium and Russia have passed strict laws governing the subject.

T. D.

**A Brush with the Fair Sex.**—Dr. E. N. Brush, of the New York State Lunatic Asylum at Utica, lately stated, in a paper read before the Association of Superintendents, that during eight years' trial of women physi-



cians of insane asylums, there were fewer cures and more deaths in the asylums where the female physicians were employed. If he goes on in this rash way his name will be Dennis.

**The Recent Berlin International Medical Congress** was an eminently satisfactory and successful one in both its social aspects and scientific results. Our Berlin brethren "did themselves proud," and all who went there came away pleased.

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## HOSPITAL NOTES.

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ESSEX COUNTY (N. J.) ASYLUM FOR THE INSANE.—Report for the year ending April 30, 1890.

Number of patients at the beginning of the year, 416; at the close, 487. Deaths: 6.2 per cent., an increase of 2 per cent. over previous year.

The new wing was occupied during the year. A number of minor improvements have been made, *e. g.*, a new stage for "Amusement Hall," new telephonic communication, etc. It is proposed to erect a new laundry, and light the asylum with electric light in the near future.

Among the amusements employed we notice a day school and a Sunday singing school.

Of treatment by medicine, Dr. Hinckley says:

"During the past year hypnotics have been less frequently required or used. 'Sulfonal' we regard as a valuable hypnotic, but rather uncertain in its effects, and so still cling to 'Paraldehyde' as the most safe and most reliable in our experience.

"'Chloralamid' we have used, but not often enough to express a definite opinion, except that unpleasant effects have been observed in the form of great muscular weakness from a minimum dose.

"'Phenacetine' in our experience has exhibited pronounced analgesic properties relieving especially the pain of neuralgic headache and rheumatism. In the latter disease a patient, while taking in divided doses one drachm, suddenly developed the initial symptoms of phenic acid poisoning."

The Training School for nurses is in active operation.

Dr. Clement L. Morris, after passing a satisfactory examination, was appointed assistant physician.

The Training School for nurses has been in operation since 1886. We append the schedule of the course of instruction for the year 1889-90:

Lectures and clinical teaching begin in October and cease in June; they are held on Monday and Wednesday of each week. Full notes of the lectures are required of each student, and note books are examined on the first of each month during the term, and rated according to excellency and the general standing of the candidate on the final examination.

*Text-Books*.—Human Body, *Martin* ; Quiz Compend on Anatomy, *Potter* ; First Lessons in Physiology, *Huxley* ; Manual of Nursing, *Weeks* ; How to Care for the Insane, *Granger* ; Manual of Obstetrics, *King*.

*Junior Class, 8 P. M.*.—Rules, Hygiene, Materia Medica and Special Subjects—Dr. Hinckley. Physiology, Dietetics, Emergencies and Urinary Tests—Dr. Nash. Anatomy, Bandaging and Surgical Dressing—Dr. Morris.

*Senior Class, at 11 A. M.*.—Insanity, Nervous and General Diseases—Dr. Hinckley. Diseases of Children, Management of Eye and Ear Cases—Dr. Nash. Obstetrics, Diseases of Genito-Urinary Organs and Special Surgery—Dr. Morris. T. D.

REPORT OF PENNSYLVANIA COMMITTEE ON LUNACY—For the year ending Sept. 30, 1889. There were 1,350 admissions during the year ; 530 patients were cured ; 397 died. At the close of the year the hospitals contained a population of 4,878.

In all the asylums in Pennsylvania systematic instruction is now given to attendants. At Norristown a corps of six inspectors is employed. The duty of these inspectors is to instruct new attendants in their duties, the rules of hospital, etc. When not on duty in the wards the monitors keep close scrutiny over the attendants and patients in the ward from a raised platform or bridge in the wards. Under this plan the abuse of patients, it is believed, has been reduced to *nil*. The plan, which was harshly criticised in some quarters, has received the approbation of the Committee.

Concerning the provision for the treatment of acute cases of insanity, the Committee say :

"The present practice in regard to the hospital treatment and care of acute cases of insanity might be improved upon by the setting apart of one or more wards devoted to the peculiar care of acute cases ; having an increased number of attendants being in the immediate vicinity of the administration building so as to be in a position to command, for this class of patients, every facility for special medical treatment, special diet, and for careful observation adapted to the necessities of each individual case.

"In our last report we called attention to this subject, urging additional accommodation for the treatment of recent cases of insanity in the State hospitals, either in the wards of the institutions, or, better, in buildings capable of accommodating twenty or thirty beds ; in either case such

accommodations ought to be contiguous to the administration buildings, so that all such acute cases shall be under the immediate personal supervision and care of the medical superintendent."

The Committee, however, make no specific recommendations looking to the practical carrying out of these ideas.

Additional accommodations have been provided for 300 patients. The proposed extension of the Danville hospital is approved. This will accommodate 300 male patients. It is to be a separate building, two stories high—\$136,000 has been appropriated for its erection. Danville, at present, has about 950 patients (but is much crowded). When the new annex is finished it is probable that the population will soon reach 1,200. Thus we see the tendency towards large institutions is fostered, notwithstanding the fact that a great majority of alienists, both in this country and England, have repeatedly put themselves on record in saying that the interests of the insane are best served in hospitals containing from 300 to 600.

It is thought that the congregate dining-room plan so well established at Norristown, can be introduced into all the State Hospitals. The ward dining-rooms are condemned.

Among amusements recommended, we notice instruction in geology, botany and ornithology. We have tried to bring ourselves to see the practicability of moulding in clay and hammering brass, but these, with the subjects mentioned, seem to us must have an extremely limited range of practicability.

Mechanical restraint is now not regularly employed in any of the State or private hospitals, the department for females of the Norristown Asylum having a perfectly clean record in this respect. Dr. Alice Bennett, who is in charge of this department, states that no one has received injuries in consequence of the entire absence of restraint.

There are yet 616 insane in the county almshouses. The committee say that all these persons would be much better off in the State institutions.

The erection of a separate hospital for insane convicts is strongly recommended. There are 83 such persons at present in the State hospitals.

An effort was made by Dr. Wetherill, secretary of the committee, to ascertain the number of cases of insanity brought about by the Johnstown disaster. Fifteen

cases, seven men and eight women, were found. Dr. Wetherill, in speaking of this subject, says :

"In reviewing this very small total, the conviction is strengthened that the great and overwhelming trials of life are much less liable to overthrow the reason than the continuous worry and attrition of minor evils and unavoidable contact with depressing surroundings."

T. D.

NEW ASYLUM FOR INSANE CRIMINALS.—The new asylum for insane criminals of the State of New York is now well under way. Seventy thousand dollars will be required to complete it; \$190,000 has already been spent. The plant will be very complete when finished.

T. D.

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## REVIEWS, BOOK NOTICES, &c.

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PUBLICATIONS DES PROGRES MEDICAL, Paris, 14 Rue des Carmes, 14. Paris. Œuvres complètes de J. M. Charcot. Tome IX. Hémorragie et ramollissement du cerveau, Métallothérapie et Hypnotisme Electrothérapie. Un beau volume in 8vo de 571 pages, avec 13 planches en phototypie et chromolithographie.

The *Progress of Medicine* Publishing Company, 14 Rue des Carmes, Paris, sends us the complete works of M. J. M. Charcot on "Hemorrhage and Softening of the Brain," metallotherapy, hypnotism and electrotherapy, for which we return our cordial thanks.

Nothing that the ALIENIST AND NEUROLOGIST might say would further commend these productions of the great French *savant* than the work itself. The "œuvres" of the distinguished author speak for themselves. Other commendations pale before the name of Charcot.

FOSTER'S ENCYCLOPÆDIC MEDICAL DICTIONARY, Vol. II., is on our review table. The first volume has already been favorably mentioned in the ALIENIST AND NEUROLOGIST, and the very complete and exhaustive volume before us only still further confirms the good opinion already expressed of the book and its accomplished editor. Dr. Foster is well known to the medical profession as thoroughly competent for the task he has assumed, and thus far he has done his work excellently.

The promise of the first volume is fully filled in the second volume, and our readers will not be disappointed in it. It comes up entirely to our expectations and the promises of the publishers, D. Appleton & Co., 1, 3 and 5 Bond St., New York.

LIPPINCOTT'S MAGAZINE FOR JANUARY, 1891, has the following interesting contents: "The light that failed"—By Rudyard Kipling; "In An Old Garden"—By Eben E. Rexford; "The New Spanish Inquisition"—By Julian Hawthorne; "Christmas Gifts"—By Ruth McEnery Stuart; "I Remember"—By Francis Wilson; "Perversity"—By Charlotte Fiske Bates; "The State of Washington"—By Moses P. Handy; "Anacreontic"—By Daniel L. Dawson; "The Road Movement"—By Lewis M. Haupt, C. E.; "Friend Olivia"—By Frederic M. Bird; "With the Wits"—(Illustrated by leading artists).

The article on the "State of Washington," by Major Moses P. Handy, will surprise the many who know little of this wonderful section of the country. During the preparation of the article, Major Handy spent several weeks in the new State; hence, his information and statistics may be absolutely relied upon. "In depicting the characteristics of such a progressive State," says Mr. Handy, "and noticing the salient features of its resources and their development, one is confronted by the difficulty of catching and holding a view which will be recognizable even a few weeks later. The Washington of yesterday is not the



Washington of to-day, much less of to-morrow. In the interval between the writing of this article and the going of the magazine to press, the wood-cutter's hut will give place to the saw-mill, the saw-mill to a stirring town, and the town will grow into a city. Railways projected become railways built, new banks open their doors, new manufacturing enterprises spring into being, a hole in the ground becomes a productive mine, the ax and the plow bring wild land into subjection to man—and so the work of State-building goes on, with changes fairly kaleidoscopic, perverting the artist's picture, confuting the writer's assertions, and driving the statistician to despair."

THE PHYSICIAN'S VISITING LIST, for the New Year 1891, published annually, is now ready. Strength, compactness, convenience and durability are the essential qualities which a good Visiting List should possess to resist the unusual hard wear it receives. These qualities are all combined in Lindsay & Blakiston's Physician's Visiting List, which has now been published for forty years. It is the most convenient for the pocket, and its contents are arranged in the most advantageous way, including many useful tables and specific information.

Aside from its other features, its size and weight recommend it. It measures  $6\frac{1}{4} \times 3\frac{3}{4}$  inches, and the smallest size weighs but  $3\frac{1}{2}$  ounces, and is only  $\frac{3}{8}$  of an inch thick. P. Blakiston, Son & Co., Publishers, 1012 Walnut Street, Philadelphia.

THE BACTERIOLOGICAL WORLD is a new product of the commencing year, and will issue 5,000 copies this month. The first number will contain the following articles: Frontispiece, Pasteur's and Koch's pictures; Study of Bacteriology, preface, introduction, etc.; Lesson First, Generalities on Germs, Spontaneous Generation; Original Articles, Actinomycosis in Man and Beast (big jaw of cattle.) Foreign and home investigations; Surgical Bacteriology, Bacterial Complication of Wounds (Ogston, Rosenbach, Cornil, Babès, etc.); Medical Bacteriology, Immunity, by Dr. Bouchard, Paris, France; Hygienic Bacteriology, Hydrophobia, by Dr. Paul Gibier, Pasteur's Institute, New York City; True and Spurious Bovine Vaccination and Complications, by Paul Evans, Pathological Laboratory, Missouri Agricultural Experiment Station; Clinical Notes. Bambotano in Malaria (a specific substitute for quinine), Taïro-Petrolene (or petrolene compound), Pyoktanine; Editorial, Koch's Treatment of Tuberculosis; Notes from Laboratories, Pasteur's laboratory and others. It is edited by Paul Paquin, M. D., Columbia, Mo.—*Exchange*.

Dr. Paquin is a well-known bacteriologist, whose acknowledged abilities justify the fullest confidence in and highest expectations for the new journal. We acknowledge with pleasure the receipt of the first number and cheerfully place the new journal on our exchange list.

THE CENTURY FOR JANUARY.—The first instalment of the selections from Talleyrand's long-expected Memoirs is the most striking feature of the January *Century*. A sketch of Talleyrand, by Minister Whitelaw Reid, prefaces this installment. The opening pages tell of Talleyrand's

neglected childhood, and his entry into Parisian society. They also give his views of La Fayette, and the effect of the American on the French Revolution; some account of the beginnings of the latter; a very contemptuous opinion of the Duke of Orleans; a sketch of the author's stay in England and the United States, and a highly interesting conversation between himself and Alexander Hamilton on Free Trade and Protection. This and the portrait of Augustus Saint Gaudens, and other pictures by Kenyon Cox, and full table of contents by well-known writers to the number of twenty-five or more, together with "*Topics of the Time*" and "*Bric-a-brac*" makes an exceedingly interesting number for the beginning of another year in the history of this excellent literary magazine.

The following will interest the few readers of the ALIENIST AND NEUROLOGIST, who read only medical literature:

"*Medicines among the Mongols.*—Medicines also are much sought after by them. While I was at Dulan-kuo nearly everyone in the village came to see me, and most of the people asked for medicines whether they were suffering from any complaint or no. Plasters were in great demand, as all the villagers had rheumatism, and the tighter the plasters stuck the better they were held to be. I had with me a bottle of Eno's fruit salts, and tried to give some to the people, but when they saw the salts boiling and fizzing they thought there must be some magic about the medicine and would have none of it.

"Most of their troubles, sores and eye diseases come from dirty habits, but one can never persuade them of the necessity of keeping clean. A friend of mine was once traveling among the Mongols, and an old crone came to him and begged some medicine to put on a sore. He told her that before applying the salve it would be necessary to wash herself. She gave it back to him, saying: 'I am sixty-seven years old, and I have never washed in my life; do you suppose I am going to begin now?'

"Mongol physicians feel the patient's pulse on both wrists at the same time, and never ask any questions; or, at least, none concerning the origin and progress of the complaint, for if they did, it would be held that they had shown ignorance in their profession."—*W. Woodville Rockhill, in January Century.*

The remainder of our many readers will get the magazine and enjoy the rich literary treat of the January Number. The perusal of periodicals like the *Century* serves to unbend the professional mind and keep its faculties elastic. We wish the *Century* its full deserts in a prosperous New Year, and our readers a happy one in its perusal along with the reading of the ALIENIST AND NEUROLOGIST.

THE MEDICAL NEWS, which with exceptional enterprise recently gave its readers a cablegram detail of Prof. Koch's wonderful work in Berlin, thus discusses the foreign medical study question:

"*The Proper Place for Foreign Study for American Men.*—Human beings are so much like sheep in their habit of following where their predecessors have led, that it seems almost useless to attempt to divert

their course from the clinics of Vienna or Berlin to those of London, Liverpool or Edinburgh; yet anyone who has studied both on the continent of Europe and in England, must have been impressed with a number of advantages possessed by English study over those offered in still more foreign lands. Very few medical men in this country recognize that the city of London, with its many millions of inhabitants, must possess a corresponding number of cases of diseases and injury, and that the number of its hospitals, the thoroughness of its teachers, and the character of the people, all tend to aid in the pursuit of instruction in the cure of disease. There are other advantages, too, which are even more important. First and foremost is the fact that we all use the same language, and call things by the same names; second, the *materia medica* list is closely allied to our own, and the preparations are almost identical; third, the disease-processes seen in England resemble those seen in America more closely than do the diseases of other parts of Europe, and we can study morbid conditions in our own race instead of in races possessed of different temperaments and habits, as well as food and drink.

"The advantage of the mother-tongue is inestimable. Very few Americans, who do not possess German blood, know enough of the German language to understand the terms used by a rapid lecturer in the Fatherland, and, if they do not, they lose that which they chiefly desire, namely, the minute points of the subject before them. The average American going to one of the Continental clinics receives most of his instruction from docents, or other instructors of a comparatively low grade, simply because he is one of the hundreds who throng, not only around the chief, but overflow to the subordinates; while in England, notably in London, the number of eminent men is so great, and the percentage of foreign students so small, that each and everyone can sit at the feet of the teacher whose writings are known everywhere in the civilized world. While the student in Berlin or Vienna becomes imbued with the views of a single individual governing a given course, in London he may go from hospital to hospital and obtain different views, and in consequence become a man of broader ideas and greater resource. The fees at the various hospitals are no higher than in Germany, and the student has the privilege of being in the healthiest city in the world, and eating food resembling that which he receives at home, instead of placing himself in the notoriously bad surroundings of a Continental *pensionloge*, and living on food which only a Teuton can withstand.

"So infinite are the advantages of London as a medical center to Continental centers that it seems almost absurd to sing its praises, were it not that so many of our countrymen fail to go there, and the establishment of a post-graduate course, with Jonathan Hutchinson at its head, renders our lack of recognition of our own Fatherland the more culpable."

Abnormal Intra Thoracic Air-Pressures and Their Treatment. By Charles Denison, A. M., M. D., Denver, Col.

New Methods of Performing Pylorotomy, with Remarks Upon Intestinal Anastomotic Operations. By A. V. L. Brokaw, M. D., St. Louis, Mo.

Intestinal Anastomotic Operations with Segmented Rubber Rings, with some Practical Suggestions as to Their Use in Other Surgical Operations. By A. V. L. Brokaw, M. D., St. Louis, Mo.

The Treatment of the Morphine Disease. By J. B. Mattison, M. D., Home for Habitues, Brooklyn, N. Y.

La Responsibilita Nell' Isterismo. Del Prof. Leonardo Bianchi. Professore di Psichiatria e Direttore del Manicomio di Palermo.

Public Health and the Land Question. By Geo. Homan, M. D., St. Louis, Mo.

The Abuse of a Great Charity. By George M. Gould, M. D., Ophthalmologist to the Philadelphia Hospital.

Subjective Delusions; or The Significance of Certain Symptoms in Mental Disease. By Joseph Draper, M. D., Brattleboro, Vermont.

Nervous and Mental Diseases Observed in Colorado. By J. T. Eskridge, M. D., Denver, Col.

A Clinical Study of Forty-Seven Cases of Paralysis Agitans. By Frederick Peterson, M. D.

Functional Nervous Diseases of Reflex Origin. By Albert Rufus Baker, M. D., Cleveland, Ohio.

What is the Present Medico-Legal Status of the Abdominal Surgeon? By William Warren Potter, M. D., Buffalo, N. Y.

The Treatment of the Acutely Insane in General Hospitals. By W. P. Spratling, M. D.

Large or Small Hospitals for the Insane—Which? By C. E. Wright, M. D., Indianapolis, Indiana.

A Successful Case of Nephrectomy. By George Ben. Johnston, M. D., Richmond, Va.

Climatology and Diseases of Southern California. By Frank D. Bullard, A. M., M. D.

Imperforate Auditory Canals. By Seth. S. Bishop, M. D., Chicago, Ills.

Some Points in the Diagnosis of Certain Simulated Mental and Nervous Diseases. By J. T. Eskridge, M. D., Denver, Col.

Acute Myelitis Preceded by Acute Optic Neuritis. By J. T. Eskridge, M. D., Denver, Col.

Uric Acid Diathesis in Affections of the Ear, Eye, Throat and Nose.

Case of Large Cerebellar and Several Smaller Cerebral Hemorrhages. By Theodore Diller, M. D., Danville, Pa.

The County Insane Asylum System in Wisconsin. By J. M. Dodson, A. M., M. D., Chicago.

Report of Carlos F. MacDonald, M. D., on the Execution by Electricity of William Kemmler, *alias* John Hart.

The Early Stage of General Paralysis. By Charles F. Folsom, M. D., Visiting Physician Boston City Hospital.

Synopsis of a Course in Microscopy for Pharmacists. By Dr. H. M. Whelpley, F. R. M. S.

The Metric System and the Seventh Decennial Revision of the U. S. P. By H. M. Whelpley, M. D., Ph. G.

Treatment of Catarrh. By J. J. Stephens, M. D. Clinton, Mo.

The New York Medical Journal. Edited by Frank P. Foster, M. D.

Disorders of Sleep: Insomnia. By Charles F. Folsom, M. D.

Further Notes on the Chigger. By Dr. H. M. Whelpley, F. R. M. S.

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NO. 2.

ORIGINAL CONTRIBUTIONS.

**The Paths of Conduction in the Medulla  
Spinalis.\***

*AN EXPERIMENTAL STUDY.*

By ALESSANDRO BORGHERINI, M. D.,

Docent in the University of Padua.

WITH the intention of entering on an experimental study of the spinal medulla, but without any definite aim at the outset, I commenced a series of vivisections, the results of which, accumulating by degrees, and becoming by turns more complete, constantly enlarged the field of my observations and presented to me an opportunity of reaching some conclusions which are certainly not devoid of interest to science.

The method of investigation pursued by me was purely objective, and the alterations induced in the animals were valued with exactitude, after death, by the microscope and histological examination. The animals, being permitted to live until complete healing had taken place, presented, in the majority, the opportunity for observing both the parts of the first experimental period and those of the second, whilst the study of the anatomical lesions

\*From the Laboratory of Experimental Pathology of the I. R. University of Vienna.

Translated by JOSEPH WORKMAN, M. D., of Toronto, Canada.

by means of histological examination enabled me to assign to the clinical symptoms their just value, in relation to the pathological changes met with.

Many of the experiments, made in the past on the spinal medulla, have been defective because of the absence of exact necroscopic and microscopic control. They have been based purely on direct observance of the animals at the instant of the operative act, or very soon after it; and exactly thus from Bell and Magendie down to the present time, almost all the physiologists who have been engaged in this order of research have experimented. It is not therefore to be wondered at that many questions relating to the physiology of the spinal medulla have come down to us unsolved, and that the most contradictory opinions have often clustered around them.

Vulpian, Brown-Sequard and Schiff were the first to give to experimental researches the imprint of scientific exactitude; yet the application of the true method of experimental investigation is to be met with only in very recent works, such as those of the Italians Santi Sirena and Piccolo, of Palermo; N. Weiss, of the school of Stricker, Scheifferdecker, Kusmin, etc.

I have also endeavored to pursue this method in my researches, and I have in part sought to modify it in accordance with the advice given me by the illustrious Prof. Stricker, who has been my loving and patient guide. This method consists, as has been before said, in keeping the animal in life until the complete healing of the wound, and following the symptoms especially in the second experimental period; and after death, in an exact microscopic search of the spinal medulla through its whole extent, in order to enable us to determine rigorously the alterations induced in the operative field, or manifested in consequence of the wound in other regions of the medulla.

The greatest care taken by me was in the scrupulous carrying out, during the operation, of the antiseptic

surgery, exactly as though I was performing an operation on a human body, and by this means to limit, or totally avert any reactive process around the wound, and hence to have in the second period the pure and simple results of the inflicted lesion, which had been contemplated in the operative plan. In this I was sometimes very fortunate; sometimes however the intrusion of suppuration brought about final results different from those desired, but these, under the system followed by me, proved valuable for very definite conclusions.

It is almost useless to say that, in the histological examination of the pieces, I took care to follow, with all exactness, the latest instructions in microscopic technology, and that the classification of the several cases was made only *a posteriori*, under guidance of the microscopic study; hence the results collected and detailed in the various sections of this article have frequently been presented in animals in different ways operated on. I state expressly that not all the cases studied enabled me to reach positive conclusions, for a part of the material collected had afterwards to be rejected, thus much reducing the number of utilizable cases; but those remaining were still sufficiently numerous, and by the importance derived from their exact form they have abundantly compensated for the much larger number of defective ones.

A summary report of the clinical cases will be given hereafter; but in order to avoid useless repetitions I shall always award the first position to the most salient cases, and briefly state the principal features of the others.

## I.

*Conductility of the Gray Spinal Axis.*—Notwithstanding the numerous researches effected since the works of Turck (1851), relating to the long spinal paths, we yet find in modern literature divergent opinions respecting the conductility of the gray axis.

Schiff admits that in the normal state the gray spinal axis conducts dolorific impressions from the periphery to

the cerebral sentient centres, and he restricts conductivity for the tactile and thermal impressions and the muscular sense to the posterior cords. In the failure of these cords however the gray axis would assume conduction, for any and every sort whatever, of peripheral impressions, and even a small fragment of it would suffice for effecting the function.

Brown-Sequard regards the gray spinal axis as a path of motor conduction, and he attributes to it, in addition, a part of the action in the carriage of sensitive impressions from the periphery to the cerebral centres. The sensitive paths, however, along their course in the gray axis, as he thinks decussate in such a manner that a longitudinal median cut of the medulla, at the points of departure of the great cervical and sacral plexuses will produce cinæsthesia in the respective limbs (anterior or posterior).

Vulpian, too, attributes to the gray axis an integrant part in the transmission of sensitive impressions, without however assigning to these, in their spinal passage, definite paths, and consequently without admitting any decussation of such paths.

According therefore to these three authors the gray axis should be regarded as a long sensory path, and, as Brown-Sequard thinks, a motor also.

Subsequently, however, Woroschiloff (1874) dealt by his own researches on the spinal medulla of rabbits, the first blow to this opinion; he was in fact able to demonstrate on his animals operated on, that the gray axis totally wants this pretended conductivity, whether motor or sensory. His experiments leave an opening to a great objection, since he made his observations in the act of vivisection, or a little afterwards, on an organ which had recently undergone an injury, and had been some time exposed to cooling and the impression of the external air.

Afterwards, in 1879, N. Weiss, under the guidance of Stricker, having repeated the like experiments, and allowed

the animals to survive a long time, was enabled to realize the truth of the opinion of Woroschiloff, and to furnish results of his own, which confirmed what had been asserted by that author respecting the gray spinal axis.

As I believe that little attention has been bestowed on the statements of these two experimenters, the results which I have myself secured, in a clear form, in one of the animals on which I operated, seem to me of no trivial interest, as they corroborate the facts observed first by Woroschiloff and afterwards by Weiss.

*Details of the Case.*—On the 24th of June, the left lateral cord, in a dog about one year old, was cut transversely at the upper limit of the lumbar medulla. The operation was executed in a rigorously antiseptic mode, and most accurately, without any untoward occurrence. Immediately after the operation paralysis of motion was manifested, which was complete in the left hind limb, but not quite so in the right; in the latter, however, it did not last long, as a few hours afterwards the animal was able to move the limb distinctly. I shall speak elsewhere of this circumstance; at present I mention the fact in order to show more clearly the condition of the animal operated on. Some days after the operation a certain degree of vitality was established in the left hind limb, and in three weeks the dog was able to move quickly, and even to run on his four legs, although there might appear to a practiced eye a particular uncertainty of gait referable to the hind limb of the left side.

At the end of four weeks this dog was operated on a second time, by the cutting of the right lateral cord, about two centimeters above the preceding location. The operation was as carefully executed as the former one. *Immediately after it both the hind limbs appeared paralyzed*, but not in an equal degree. On the left there yet continued a certain degree of voluntary motion, though not very perceptible; it was coupled with intentioned movements of the fore limbs; this extremity presented a certain degree of resistance to passive movements, whilst the

other remained altogether inert. *Sensibility* was (dolorific) *completely extinct in both limbs.*

On the sixth day after the second operation complete paralysis of sense and motion in the hind limbs still continued. On pushing two needles into the affected limbs and passing through them a strong faradic current, a tetanic convulsion was produced in the posterior parts, without any manifestation of pain, and the fore limbs remained quite motionless. The second wound healed equally well as the first, and the aspect of the animal, excepting the part wounded, was quite normal. He was killed on the 31st of July. The necroscopy showed that both operations had succeeded exactly as intended. The gray axis had been saved in both.

Such was the case of which I have given only the principal features; it is, *per se*, too eloquent to call for much comment. I shall return to some special particulars of it hereafter. For the present, in order to avoid subsequent repetitions, I would here draw attention to the fact that about three weeks after the cutting of the left lateral cord, the hind limb on the same side was gradually recovering, and had, indeed, almost altogether recovered its proper motility. The examination showed that at the location of the inflicted wound the lateral cord had healed by formation of cicatricial tissue. It has been observed and stated by every experimenter that absolute healing—that is, the true and proper reintegration of the lesed tissue, in the central organs of the nervous system, cannot be obtained. In my case, therefore, the renewal of function cannot be otherwise admitted than by the formation of a collateral path. The second operation indicates where such a path existed, for the motility of the left hind limb disappeared again after the right lateral cord was in its turn severed. It is then logical to admit that the collateral path, in such a case, should be sought for in the cord last operated on—that is, in the opposite half of the medulla.



But, returning to the fact chiefly remarkable in the preceding experiment, I feel constrained again to state that the animal had lost, in the hind parts, both dolorific sensibility and voluntary motility, in consequence of the cutting of the two lateral cords, whilst the gray axis and the anterior and posterior cords remained intact. Let it be observed that the gray axis was merely touched on the surface; the nonconductibility of the remaining parts will certainly not be attributed by anyone to the trivial lesion of the gray axis.

I do not at present enter on the question of the functional value of the posterior and anterior cords; on the contrary, I feel authorized by the force of this experiment, to conclude with Woroschiloff and N. Weiss that the gray substance does not contain *long paths*—that is, it is not capable of conducting from the periphery to the centre the sensitive impressions, and *vice versa*, the voluntary impulses from the centre to the periphery (dolorific). I state, however, expressly that I intend to speak of the conduction of the gray axis only through its entire length (long path), certainly not of the partial conductivity of which it seems to be truly capable; that is, of receiving and transmitting, *in se*, through a short tract of its length, both sensitive impressions and volitive motor impulses.

## II.

*Of the Spinal Motor Paths; vicarious of these.*—Our knowledge of the course of the motor fibres in the spinal medulla, has in part been derived from the researches of pathological histology, in the human body, or from those of experimental pathology in the medulla of the lower animals subjected to operations; they have also, in part, come to us from the researches of physiology on the changes of function, in one way or other, in the mutilated organ. In the present state of knowledge, however, the results of this double mode of research are not in full accord. According to the data of pathological histology, which date from the time of the labors of Turck, there

are in the human medulla two motor paths, which are also called *pyramidal*; one direct, in the anterior cord; the other crossed, in the lateral cord. Bouchard, in 1866, about fifteen years after the studies of Turck, in repeating similar researches, recalled the attention of pathologists to the subject, which had then been lost sight of. It may be said that only from this time did the fact through the labors of Bouchard, take its position in science, and later histological labors have but contributed to establish it more firmly and to define it more accurately.

The observations of Turck found confirmation in the field of experimental pathology, in the studies of Schiefferdecker (1876), made on dogs, which were afterwards repeated by Senger, Kusmin, N. Weiss, Schultze, and others. \* All these experimenters differ perhaps a little in their details, but on the whole, they incline to attribute a fascies of motor fibres to the anterior cords also.

But the data derived from vivisection do not at all accord with these results. Woroschiloff, of the school of Leipzig, in a series of researches on rabbits, arrived at conclusions which pointedly negative any long sensory or motor path either in the anterior and posterior cords or in the gray substance, and he limits these paths solely within the lateral cords.

I do not desire to conceal the fact that this absolute and restrictive opinion has not been accepted by all physiologists; but in order to show how great an appearance of truth it has, I cannot avoid referring to the case before described, in which it was seen that when we cut first one and afterwards the other of the lateral cords, the two halves of the body, below the part operated on, became completely paralytic. In the face of this result, there seems to me to remain no reason for the hypothesis that motor paths exist in the anterior cords.

I believe, however, that I am able, from my own experiments, to offer a certain contribution to the solution of this apparent disaccord. My experiments have shown

that *the motor paths, normally functioning, have their seat in the lateral cords, but that the anterior cords contain collateral paths which enter by little and little into function, after the principal paths in the lateral cords have been destroyed.* I have arrived at this conclusion by the observance of animals that had for a long time survived the operative act.

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## Ninety Cases of Paretic Dementia.

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By G. R. TROWBRIDGE, A. M., M. D.,

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THE very fact that this disease was practically unrecognized in this country forty years ago, and to-day ranks among the worst forms of insanity, is sufficient reason to make statistics on the subject both of considerable interest and value. In all probability there were cases of paretic dementia before the time of Bayle, and although he is credited, I believe, with first having accurately described the signs and symptoms of it about the year 1825, it is scarcely probable that the inhabitants of this world were exempt from it though it was not recognized and understood as it is to-day.

History is indirectly contradictory to this, and if we are to believe the facts as recorded there were certainly sufficient causes in the Middle Ages to produce a generous supply of paretic dementia, and I have not the least doubt but that it existed to a considerable extent among the so-called nobility of France, England and other European nations, whose ideas of morality and moderation were somewhat at a discount. The same causes which are producing it to-day were in working order then, though perhaps not to as great an extent; and granting that the mental, moral and physical conditions of two centuries ago were practically the same as those of the nineteenth century, it is fair to conclude that this age is not entirely responsible for this disease.

That paretic dementia is increasing in this country with alarming rapidity there is no room for doubt, as the reports of our institutions for the insane show. It is, however, only another indication of the "fast" age in which we live; and this yearly increase of the disorder is not a thing of which the American citizen should be proud, but

on the contrary, it should be looked upon as a veritable curse, as it only proves that those vices and immoralities which are the corner-stone of general paresis, are increasing and causing the moral, physical and mental wreck of our fellow-citizens. No one can realize the truth of this better than the medical officers in our hospitals for the insane. In a large number of cases of paretic dementia admitted to hospitals for the insane, causes for the disease are given which are ridiculous in the extreme; and though either through ignorance or unwillingness on the part of the friends, or delicacy on the part of the physician, the real and true cause cannot be ascertained, yet in three cases out of five it would be a comparatively easy matter to guess it, as the real causes of paretic dementia can be sifted down to an extremely small number.

The following statistics of ninety cases were compiled from the registers of this hospital, and though they are more or less defective, they present some interesting points.

Of the 3,518 admissions to this hospital, 90 were cases of paretic dementia; 77 of these being males, and 13 females. This is about two and one-half per cent. of the entire number admitted.

In the State Hospital for the Insane, at Independence, Iowa, of 3,700 admissions, 40, or a little over one per cent., were cases of paretic dementia.\*

Of 2,297 male patients at the Pauper Asylum of N. Y. City, 284, or a little over twelve per cent., were paretic dements.†

We have here almost two extremes in the number of cases. This may be accounted for by the fact that in N. Y. City the opportunities, surroundings and tendencies are much more inclined toward the causes of paretic dementia than they would be in a less thickly populated district; besides, the wandering population, which is

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\* "General Paresis of the Insane." Gershom H. Hill, M. D., *Medical News*, November 8, 1890.

† Spitzka, "Manual of Insanity," page 180.

continuously arriving in our metropolis, affects to some extent the percentage of such cases.

I should say from these three records that a probable fair estimate of the cases of general paralysis in our insane hospitals was about five or six per cent.

The nationalities of my 90 cases are as follows: Males, German 7, English 3, Americans 55, Welsh 2, Irish 4, Canadian 1, Negroes 2, unknown 3. Females, Americans 11, Irish 1, Welsh 1.

From these figures we see, that of the 77 males 19 were foreign-born, and of the 13 females 2 were foreigners.

According to the last report of the Commission on Lunacy of the State of Pennsylvania, about one-half of the insane of the State are foreigners, and as only one-fourth of these cases are of foreign nativity, it can hardly be said that foreigners are especially responsible for it. We must consider, however, that these ninety cases are from an American institution where it is to be expected that Americans will predominate in everything, and I am sure that the same would be true of English or French institutions, as the inhabitants of these countries are as much exposed and prone to general paralysis as the American. The one factor, however, in this country which makes us as a class more subject to this disease than other nations, is the continuous strife and struggle for the supremacy. This may not be evident in all parts of the United States, but, nevertheless, it is a fact that the Americans as a class are living too fast, and that by this strain on the mind and body are placing themselves and their descendants in a condition where it will require but a slight exciting cause to overcome an overtaxed brain. I do not think that business or intellectual pursuits are alone often exciting causes of parietic dementia, for as a rule those affected with this disease are not from the higher stations of life, but on the contrary are from the middle, or even lower classes, where the actual business cares are the least; still, these may in a great measure act as predisposing causes.



In the consideration of occupation, I shall only take the males, as the occupations of the females were unknown, except in two cases, and these had no bearing on the disease. Of the 77 men, there were 14 laborers, 8 farmers, 7 miners, blacksmiths, engineers and carpenters, 4 each; railroaders and clerks, 3 each; plasterers, lumbermen and book-keepers, 2 each; mason, miller, iron-worker, landlord, coachman, telegrapher, waiter, insurance agent, mechanical engineer, barber, plumber, author, lawyer, grocer, shoemaker, bartender, minister, mechanic and bricklayer, 1 each; unknown, 5.

Mickle,\* in regard to occupation. says: "Military and naval life, occupations exposing the workers to great heat and sweat, or to alternate heat and cold draughts, prostitution—all favor the production of general paralysis. So do those which occasion emotional strain, constant worry and irritation, or intellectual overwork."

These various occupations are those which belong to a class in middle life—at least the great majority; the largest number being day laborers; second, farmers; third, miners, etc., etc., there being a decrease in number of persons as the occupation becomes better. These figures, to a certain extent, support my statement, that seldom is general paralysis caused by mental strain alone, as the greater number of cases are those whose occupation requires very little mental effort.

Dr. Hill says:† "So far as my own observation extends, the disease is seldom brought on by purely intellectual pursuits." It seems impossible that the work of a laborer should in any way affect his mental powers, and especially to the extent of paretic dementia, yet it might be a predisposing cause, and so be the basis on which an exciting cause might obtain a foundation, and this brings us to the consideration of the exciting causes given in these cases.

I shall have to leave out the thirteen females, as in

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\* Mickle, "General Paralysis of the Insane," page 254.

† *Medical News*, Nov. 8, 1890.

only two cases were the causes given; the first being due to intemperance and heredity, the second to overwork and anxiety.

Of the 77 men, 23 were due to intemperance, 7 to syphilis, 2 to syphilis and intemperance, 6 to overwork, 6 to business trouble and heredity, 2 to heredity and intemperance; rheumatism, typhoid fever, poverty, exposure and sunstroke, 1 each; unknown, 26.

First among exciting causes is the excessive use of alcohol. This is acknowledged, I believe, by the majority of writers to be a great producer of general paralysis. In close relation to it, both socially and as an exciting cause, is syphilis. It is claimed by some that syphilis is not an exciting cause of paretic dementia, but there are cases of general paralysis which cannot be traced to any other source, and the symptoms of this form are so identical with the regular general paralysis that it is stretching a point to claim another name for the disease. It is a distinction without a difference. This, however, does not mean that syphilis always produces paretic dementia to the exclusion of other insanities.

Spitzka,\* in regard to this matter, says: "Clinically, it is not always possible to make a sharp discrimination between syphilitic dementia and paretic dementia proper, for syphilis plays an important *rôle* in the etiology of the latter affection. \* \* \* \* \* Mendel found that of 201 patients, 117 were syphilitic, and Rippling could only detect a syphilitic element in about twelve per cent. It is to be borne in mind that the mere co-existence of a syphilitic taint does not prove a given form of insanity to be syphilitic; but the fact is significant that, of ALL syphilitic lunatics, one-half are paretic dements, or suffer from the allied form of disease (syphilitic dementia).

"In the writer's experience, syphilis is an etiological factor in the production of various forms of progressive dementia in about one-third of the cases among the pauper insane of New York. Its existence could be deter-

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\* Spitzka, "Manual of Insanity," page 244.

mined in fourteen per cent. of the paralytic patients in private practice. Of these, eighty per cent. had typical paretic dementia, and the remainder the true syphilitic form of dementia."

The excessive indulgence of vicious habits, as a rule, is likely to produce some impairment of the mental faculties, and in the majority of cases of paretic dementia, were the truth known, alcohol and syphilis would occupy the first place as exciting causes.

Here, again, the question reverts to one of social standing. Alcohol and syphilis are luxuries which are placed within the reach of everybody, from the laborer to the millionaire, but we find in my ninety cases, on a close comparison, that as the number in the exciting causes lessens the cause itself becomes more respectable. I found that intemperance was given as a cause, especially among laborers and miners, and the same was true of syphilis, whereas the occupation, being a little better, the cause appeared as overwork, or was unknown.

Paretic dementia, as a rule, does not attack vigorous and well-balanced minds, unless, perchance, heredity plays a part, but is found among the class whose morals are of such a low grade that regard for themselves or others is completely destroyed, and they give themselves up to immoralities and vices which are the exciting causes of the disease. Thirty-four of the seventy-seven cases were due to either alcoholism, syphilis or heredity, or a combination of two or more, and I venture to say that in the twenty-six cases in which the cause was unknown, these three factors would be in the majority. Heredity plays an important part in the causation of paretic dementia, though I do not think as important a one as alcohol and syphilis, as it acts more as a predisposing cause.

Dr. J. Z. Gerhard, Superintendent of the State Lunatic Hospital, Harrisburg, Pa., says:\* "The causes of general paralysis have not been absolutely determined, .

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\* "Thirty-ninth Annual Report of the State Lunatic Hospital, Harrisburg, Pa."

but it is probable that several factors enter into its development, and that there is a close and important relation between it and syphilis, although we cannot trace a history of syphilis in all cases."

The disease, as a rule, does not attack either extreme age or youth, but on the contrary seems to select individuals in the prime of life. In summarizing these ninety cases, I find that among the men, the youngest case when attacked was 26 years old, and the oldest 63 years; the average of the 77 cases being 41 years and 8 months.

Among the 13 females, the youngest was 21 years of age, and the oldest 56 years, the average being 41 years and 6 months.

Mickle\* gives the age attacked between 30 and 55, and also quotes from the statistics of the English and Welsh Asylums, showing that it is more frequent between the ages of 30 and 40, than 40 and 50.

Spitzka† also says that paretic dementia develops, as a rule, between the thirtieth and fortieth years.

In regard to duration, my cases show that among the males (50 cases) the longest time for the disease to run its course was ten years; the shortest, six months. Average of the fifty cases, two years and seven months; and among the females (8 cases), the longest was six years; the shortest, one year and six months; average, two years and eight months. Average of fifty-eight cases, male and female, two years, eight and one-half months.

I have here only taken those cases in which the disease has completed its course, *i. e.*, resulted in death, as some are still here, and others were, for various reasons, discharged.

Spitzka‡ says that the duration of the disease is very variable, and may last any length of time, from six months to ten years; the usual time being about three years.

Dr. Hill§ gives the duration in twenty-five cases as two years and six months.

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\* Mickle, "General Paralysis of the Insane," pages 248—250.

† Spitzka, "Manual of Insanity," page 216.

‡ Ibid., page 216.

§ "General Paralysis of the Insane." *Med. News*, November 8, 1890.

Mickle\* says it may last "from a few weeks or months to one, two or several years."

I think a fair average of the course of the disease is from two and one-half to three years, though, as we have seen, the course in single cases may be varied to either extreme.

The time spent in the hospital by these patients is as follows—and here, again, I shall only consider those cases resulting in death, omitting those which are still here, and those which have been discharged. Among the fifty male cases, the longest residence in the hospital was seven years, the shortest, eight days; average, one year and nine months. Among the eight female cases, the longest residence was three years and two months, shortest, three months; average one year and six months. Average for the fifty-eight cases, one year and seven and one-half months.

The average duration before admission was, males, one year and one month; females, one year and two months.

The ages at death were as follows: Males, oldest, 65 years; youngest, 29 years; average, forty-four years, three months. Females, oldest, 58 years; youngest, 26 years; average, forty-four years and two months.

I shall not draw any conclusions from these cases, as I would only repeat those of other writers, but leave that to my readers.

We must realize that if this disease continues to gain ground, and go on increasing, we will have another powerful factor which will aid in the mental, moral and physical deterioration of the American people as a whole.

There is room for improvement in our mode and manners of life, and the sooner we realize it the better it will be for this and future generations.

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\* Mickle, "General Paralysis of the Insane," page 211.

# REASON AND MADNESS.\*

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## CHAPTER V.

IN the history of human thought we see some ideas and sentiments which seem to constitute almost the warp and woof of the vast web on which an infinitude of other threads, interwoven, picture the days of the past, with their special tints, their personages and their episodes. These ideas, which, as governing threads, traverse the entire picture of the past, now more and now less conspicuous and dominant as special likenesses of thought, accompany the life of humanity, spring from the hidden fountains of the human soul.

The sentiment of self-preservation and that of reproduction of the species, hold the field in the first episodes of humanity, with the first dominating expressions of egotism. The first experiments of association and of the family bond develop new energies, which constitute the nuclei of the ideal and moral patrimony of mankind. The great and the wonderful give the most vivid colorings of the first conflicts and the first heroisms. The torment and the dread of the unknown impel to the acquirement of the first conceptions, and present to religions their foundation.

These primal elements of the social life of man are from time to time reborn, and they hold different positions in the evolution of civilization; at one time as subjects, at another as arbiters; now fertile with good, but again with ruin; at times guides to truth, but again to error; now the standard-bearers of restoration, but

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\* Translated by JOSEPH WORKMAN, M. D., of Toronto, Canada.



anon, of destruction; to-day arousing to tumultuous activity, to-morrow launching into social ravings. Thus it is that to the religious sentiment we are indebted for the most heart-stirring emotions of pity and love, but also for the deliriums of mysticism, the epidemics of insanity, the slaughterings of the Inquisition, and the wars of religion.

No sentiment is so universal, none has such varied hues, none an evolution that is countersigned by appearances so diverse as that of religion. Its exaggerations and deformities we may study in the individual of to-day as well as in the man of the long past. In both the one and the other we ever have *man*, and he is the same repeated fact. The history of insanity mirrors that of the individual as an appurtenance of humanity.

We may study social insanities as true morbid individualities; investigate their origins, follow their courses and their transformations, form a diagnosis and propose remedies, as for an individual disease. They are integral parts of the development of human thought, and they sometimes represent the summit of those curves, passed through by humanity, and ever carrying it to greater heights. They sometimes signalize the moments of transition of historic days. Not otherwise in the individual does insanity keep close pace with the highest notes of thought and sentiment, as it bursts into the most lively commotions of the senses.

It is said that in history we live in the past, but although this may be true, it is always to be understood in a restricted manner. Even were history the most truthful reflex of an age, the man of the present day does not perceive and judge as one who lived in the time of the events recorded felt and judged.

If to-day a fact observed, by several persons is diversely judged by them because it is differently perceived, we must surely be incapable of perceiving and judging justly of events that happened centuries ago.

The historic atmosphere surrounds the whole man,

and from it he elaborates the sensibility of the time; but time changes the surroundings, and with these it changes also the sense and judgment of men.

In all the periods of civilization social insanities may be repeated, modified in different times and places. The religious sentiment does not now develop, the crusaders, the unctors and the flagellators of the past, but it brings forth the eccentricities and ravings of new sects, such as the Mormons, the Fusionists and the disciples of Swedenborg.

It horrifies us to-day to think of some of the pictures of human life of a date not very far back; we now call insanity that which once dictated the general sentiment, bedecked with metaphysical abstrusities and puerile faiths, which science itself, blindfolded, sanctioned in its turn. It is enough to make us dizzy should we, withdrawing from the life of the present time, imagine ourselves passing a single day in the past centuries: we shall make trial. Let us follow that multitude who are running to the public square, where a scaffold is erected, around which they take their stand, in order to witness a strange interrogation and a murderous judgment. Gowned men, priests, sergeants of the Inquisition, and too often, physicians, are on the scaffold, near to a woman, who is the subject of examination. Monks, friars of every color, form a circle around her. Thousands of the faithful (let us suppose them Huguenots) are present at the spectacle. To the questions addressed to her in Latin, that woman replies with shrieks and strange contortions. The examination made on the body of the wretched creature, provokes fresh screams and curses. A strange motion, an ecstatic attitude, a point through which has passed the needle of the inquisitor or the doctor, without provoking any pain, sufficed to evoke from the tumultuous people the discordant exclamations: "*Behold a miracle!*" by one party, and by another party, "*Behold the imposture!*" The tumult might have changed into a real bloody fight.

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The most frequent revelations were the colloquies with Satan, and the contracts made with him, through the agency of one of the 7,405,928 devilkings who were his messengers. This was the number given by a celebrated demonologist, discovered by means of the same logic with which in the present day certain gentlemen educe the figures of the game of hazard or roulette. Satan had a fanciful and different name for every little district or community; the contract was signed with blood, and whoever closed it became the property of Satan; he took possession with his mark, the *stigma diaboli*; wherever this mark was impressed the skin was rendered insensible, and the spot was therefore discovered by the test of the needle thrust in by the examiner.

What an analogy between the revelations of the poor possessed ones and the lunatics of to-day lodged in asylums!

The disguises of Satan, his transmutations into an old man, a bear, a dog, that he might gain admission anywhere; his gifts of enchanting powders, poisons made from the bodies of dead children, from their hearts and their bones pounded up with the powder of frogs; magic words which made such powders more deadly when they were thrown on persons—gibberish of the following order: "*Joth aglanaboroth el abiel ena theil amasi sidoneel totonia elias ischisos attranatos ymasely messias.*" All these seem to be the products of the imaginations of poor paralyzed minds, tales of children, the jargon of maniacs.

Woman was the favorite victim of Satan, man only seldom; their faults were often those of delinquents of the present time, from whom they differed only in the singularity of the facts.

The most marvelous relation of the poor possessed ones was their excursion on the Sabbath of Satan; this was a feast to which he invited the faithful to parody the religious ritual, collect the signatures of submission, and to delight his guests with the most extravagant and sensual emotions. The place of meeting was a graveyard,

a deserted castle, a solitary arid field, or the ruins of a monastery. Unguents, the gifts of Satan, composed of the fat of the livers of children, dying, be it understood, unbaptized, had the power of carrying the invited to the Sabbath. Magic words, and riding astride a broom handle, made the flight easy. At other times the witch summoned her own devilkin and made the journey on his back. The faithful being assembled, Satan presented himself in his true lineaments; with the head and feet of a goat, a long tail and the wings of a bat, and he received their homage, sitting on a throne.

The feast commenced with strange dances and grotesque and sensual contortions; the favorite refreshment of the fatigued dancers consisted of dead bodies, toads and the hearts of children. Satan omitted nothing that might divert his guests; he even became their fiddler, in his turn. At Valenciennes, a young woman, who confessed that she had heard him sing a comic song, was burned alive. Happy the young ladies of this day, who repeat on the piano *l'aria di Satana*, composed by Gounod.

The entertainment closed with the *black Mass*, which was a grotesque parody of the office celebrated by the priest; everything in this was cast into ridicule, and turned upside down. At the elevation of the host, which was usually a carrot or a slice of a radish, the macaber dance began, and was continued with giddiness, abandonment and obscenity, until the dawn of morning and the crowing of the cock dissolved the assemblage, which vanished as a morning vapor, and all returned to their beds. Such were the wondrous narrations of witchcraft, a superstition that wasted so much human energy and cost such deluges of blood. What was the fate of those infatuated creatures who fell into such confessions, now made in the desperation of madness, or again under the agonies of inquisitorial torture, would be a spectacle which few of the present day could have courage to witness.

Let us carry ourselves back to a single day of the

middle ages, and try to peep out of that narrow balcony, with slender spiral columns, summoned by the shrill notes of the trumpet, the monotonous psalmody of priests, and the clamor of the crowd. A hedge of crosses, of banners and of halberds, borne by persons dressed in a thousand fashions; the fearful glare of helmets and cuirasses; the sombre tints of the reddish, grey, white and black gowns of the religionists; the piebald vestures of the women and men that flank the courts, impart to the medley a something which is at once solemn and fantastic. In the middle of that crowd, surrounded by the *religieuse*, supported and dragged by executioners, behold a company of women; among these some, seized with fury, twist themselves in a thousand forms, disabled and ungirt; but some others are unfrightened, calm as if going to a feast. Sometimes the victims arrive, dragged behind a cart, with a cord around the neck, and their mouths in the dust and on the stones of the street. The cortege having reached the neighboring square, the armed gentry and the *religieuse* array themselves in a wide circle around a pile of wood; those poor women ascend, or more truthfully to speak, they are *carried* up, and then tied. Amid the confused noises of prayers, of shrieks, of curses, and of exhortations, there ascends a black column of smoke, which is saluted with the devilish shouts of the crowd, spread over the streets, in the windows, on the ladders, on the roofs, and then, in a little time, *there lie the burned, deformed human remains, on the smouldering embers*. Alas! it is a human sacrifice, made in the name of a sublime sentiment (!), sanctioned by reason (!) covered with the sacerdotal vesture and the gown of the judge, and fortified by the arms of the soldiery, and often by the judgment of *science* (!!!) [What sort of this commodity?—*Translator*.]

Let us close the shutter, my good reader, and deem ourselves fortunate, that so long a night has separated us from that day.

These beliefs and spectacles were cherished, not by

the vulgar alone, for the intelligent (!) public were the chief abettors of them, and the fantasy of the multitude seemed to be charmed with them. In the beginning of the seventeenth century a magistrate of the Assembly of *Bourdeaux* was sent to the low district of *Labour*, because a terrible epidemic of demonomania had broken out there. He found, in four months, the means of sending to the stake about eighty, who were accused of witchcraft. His mental calm seems not to have been afterwards disturbed, as he wrote a book entitled "*The Inconstancy of the Devil*," in which he narrates in verse the numerous changes in the trials of the witches, together with their tortures and executions. This poetic judge, whose name was DeLancre, gave entire satisfaction to the Assembly. Without indiscreetly explaining his views to the citizens as to his mode of fighting Satan and his followers, he gave orders for the erection of the scaffold on the spot where Satan held his Sabbath, and in order that terror might overcome witchcraft, he commanded that at the execution of every witch her whole family must be present, so that from the high scaffold on which the miserable woman was chained she would see her father, her mother, her uncles, her husband, sisters, brothers, children, nephews, nieces, etc., etc., whilst they with tears and loud cries entreated her to recant. It did often happen that they withdrew their confessions of attendance at the Sabbath, but how, at this time, could this declaration upset all the other evidence by which the witchcraft had been proved?

How horrifying is it to think that these spectacles cost more human lives than any war ever numbered! It would be a necrology too long and too doleful to enumerate them all. Be content with the following little samples:

At the end of the fifteenth century one hundred women in Upper Germany accused themselves of cannibalism, and they were burned alive.

The friars of St. Dominic, authorized by Pope Adrian VI., following up the bulls of Innocent VIII. and Julius II., gave the number of victims as one thousand a year



in the district of Como, alone. Let us imagine what the numbers must have reached for all Lombardy and Piedmont, provinces so murderously treated by the Inquisition (from 1504 till 1523)!

At Toulouse (1577) a clamorous trial ended in a sentence of condemnation, and the Parliament sent four hundred to the stake.

In the States of the Duke of Lorraine, nine hundred demonolators were burned alive between 1580 and 1585. At the same time innumerable victims were sacrificed in Jura, where a single judge boasted of having sent to death six hundred. A little after, in the country of the Low Pyrenees, twenty-seven parishes were victims to these errors, and the piles blazed in various places—not even the clergy being spared. Five dead bodies were exhumed in Navarre, and were given to the flames, and five living victims followed them (1610).

In the seventeenth century religious insanity, in an accentuated form, appeared in the small towns, and among the cloistered brethren in convents. Many *religiense*, directors of these institutes, fell victims. There were demonolators among the Benedictines of Madrid, the *religiense* of Loudon and of Louvier, and the orphans of Hoorn.

In France, an edict of Louis XIV. proclaimed, in 1682, “the non-existence of witches, and ordered the accused to be given over to the ordinary tribunals,” but the pile still blazed murderously in other parts of Europe, and eighty-five unfortunates were burned in Elfdalen, in Sweden; in several other parts sacrifices continued. Even in the eighteenth century religious epidemics burst forth. Epidemic dog-barkings and cat-mewings disturbed the quietude of convents near Paris and at Oxford. Vampirism infested Poland and Hungary, and tarantulism Middle Italy. It is not now that the fire has its victims, but fanaticism, popular tumults, and the violent measures had recourse to for their suppression. Among the Calvinists of Dauphine, Vivarais and Cevennes, an ecstatic

religious epidemic spread, and induced thousands to let themselves be cut to pieces by the soldiery whilst making a desperate defense.

Nor did the brightest geniuses escape the errors of those days. The most learned Cardan believed in the mysteries of astrology, the revelations of dreams, and the apparitions of spirits. Dr. Torralba, a Spaniard, believed as did Tasso, in a familiar genius that carried him in the air. Thomas Willis, one of the precursors of the doctrine of nervous diseases, believed in the empire of demons over the brain and intellect. Pico, of Mirandola, believed in the incubi and diabolic possession. But these very persons, by their works initiated the victory of those ideas which were to lead to the pure conquests of science and freedom of thought.

[N. B.—Nothing so certainly or effectively accelerates the march of truth as the denunciation of it by its bigoted and ignorant opponents. The Cardinals of the *Holy Office* that condemned Galileo gave an impetus to the science of astronomy that hastened its triumph by many decades. Why then not permit the donkeys to bray? But fetter their kicking legs, and if they try to bite, muzzle them.]

Amid the very blazes of the faggot piles stalk forth the giant figures of those champions of civilization, Bruno, Campanella, Savanurolo and Bompanaccio. And now that regenerating genius Dr. Weir, courageously proclaims the fact that the creatures conducted to the stake are not criminals, but subjects of disease. Behold Galileo, and listen to his whispered words, when rising from his knees: "*Eppur di muove*" (but still it does move).

The light of civilization has vanquished the flames of the pile, and to those who would, in the middle ages, have been burned alive, we now throw open asylums, within which we see in the signs that once were held as proofs of demoniacal possession, simply the symptoms of various brain diseases. The devil's marks and the points through which he entered into the body of the possessed one, have now become the invisible zones of a nervous mal-

ady. The bendings forward and backward of the body, the rotary movements of the head, the immobility and insensibility, the swelling of the throat and the face, the pallor and sudden blushing of the cheeks—all these capricious moods, by which the wicked spirit exhibited his potency, are now registered on the tablets of the physician as but so many symptoms of disease.

The voices which those persons heard sounding in the stomach, and which they took for strange proposals, have become the expression of the excited sensibility of a nervous ganglion. The lascivious attitudes which confirmed the confessed embraces of impure spirits, now express the excitement of a nervous province; the flights to the Sabbath and the confects of human blood are changed into hallucinations and perversions of the senses. The blood in the mouth, which in some convulsionaires was regarded as a proof of diabolic possession, is now known to be the effect of the tongue-biting of the poor epileptic. Exorcism is now a process of diagnosis; possession has been exchanged for hystero-epilepsy; the gaol and the torture have been displaced by kindness and proper medical treatment; certain substances of which unguents were composed, to serve as provocatives of visions and hallucinations, are now ingredients of calmate pills; condemnation to the stake has been changed into the more generous aspiration of restoring the poor sufferers to health.

But so long a lapse of time and so glorious a conquest of civilization have not yet put an end to religious ravings; even in our days we have examples and victims. Without wandering abroad, we find fresh proofs in Italy. In Verzenis, a small district of Friuli, in the year 1878, the women, excited by the preachings of an exorcist and by religious practices, were seized by a form of convulsion which spread through the country and threatened to extend, had the affected ones not been providentially moved away to the hospitals and to distant places.

Is not Switzerland just now disturbed by the army for

the salvation of souls? The enthusiasm of a girl of twenty years has found echo in hundreds and thousands of breasts panting for ideals less vulgar than those to which society is subservient; but the multitude, carried away by a feeling of reaction, in admiration of a girl whom they regard as a prophetess, a divulger of ideas not new, but clothed in a new fashion, march on towards the precipice of religious delirium and renew the acts of the flagellators.

It is but three years since a carter of Arcidosso succeeded in exciting an entire numerous population and in carrying them off on a pilgrimage by such a train of symbols, mysteries, doctrines and aspirations, as to constitute a new religious faith. His name was David Lazzaretti. He was a descendant of a stock many of the members of which had been victims of insanity. In his youth he passed from the aspirations of asceticism to the life of a libertine and became a drunkard. Being a lively genius he composed songs; he was a warm disputant, the *doctrinaire* of the market-place and the tavern; he had in early life set his eyes on two fascinating models; Christ and Mahomet. He had hallucinations in 1848, and they returned in stronger form in 1867, with the character of religiosity. The Madonna appeared to him and urged him to go to Rome, to present himself to the Pope, and after this he went to a certain Ignatius Micus, in the hermitage of Montario Romano, from whom he acquired his first ideas of theology. He carried away from this place a *farrago* of ideas, and on his forehead a mystic tattooing, which he concealed from the profane under a tuft of his hair.

From that time forth Lazzaretti changed his character and customs; he became sober, silent and addicted to strict fastings, which rendered him everywhere worthy of admiration; his language became more inspired, his writings more studied and elegant, his aspect solemn, his beard long, and his gait stately. All this gained for him the veneration of the people and the courtesy of the

clergy. Processions marshaled by him brought him reverence and acts of homage by the parish priests; and in the vicinity of Arcidosso he decided on erecting a temple, and as he was scarce of money, he entreated the aid of his followers, and the very women and children flocked in to him.

He founded a *Society of the Holy League*; he retired to receive inspirations to the island of Monte Christo, from which he returned to Montelabro, to detail the visions he had obtained. After divine inspirations he traveled from Rome to Turin, Cretosa and Grenoble, where he wrote the rules of his new order, the book of *the celestial flowers*; and with an aureole of glory, which in his little district was very brilliant, he returned to Montelabro, where he arrived among an immense crowd of devotees who were waiting for the new Messiah. He harangued that crowd with a sermon, and fanaticised it, so that the public authorities arrested him; he was condemned as an impostor and a vagabond and put in prison. By a reversal of the judgment he was set at liberty. His fame was augmented by the outrage suffered, and he went to France, where under a new inspiration he wrote a new book—"My Wrestling with God," or the "Book of the Seven Seals, with the Description and Nature of the Seven Eternal Cities."

At first, the friend of the Church of Rome, he now abandoned it, when it declared his doctrines diabolical, since they abolished auricular confessions: he therefore became the enemy of the priests, whom he denounced as corrupt and corruptors. He held conferences at Montelabro, and preachings; the number of his converts increased, though he required of them fastings and abstinence from pleasures of every sort.

Having collected a little money he prepared vestures and banners, promising to the multitude a great miracle. His own vesture was exceedingly strange and gaudy; he prepared others for those near him; he distributed little medals to all the assemblage, ordering them to

place them in their bosoms; the symbol of these little discs was a cross with two "c's" reversed at the sides. The crowd having arrived he commanded that procession which on August 18th, 1878, started from Montelabro for Arcidosso. To the authorities who ordered him to desist he replied that he had received commands from God.

The prophet descended among a cortege of followers, gorgeously attired. He wore a royal purple mantle, ornamented with golden fringes; on his head was a species of tiara, surmounted by a plumed crest; he held in his hand the baton of command. A few carbineers, who came from the neighborhood, intimated to the crowd that they must disperse; they were answered with shouts and threats. Some musket shots were fired, perhaps aimed over the heads of the crowd, but one bullet struck the prophet's forehead, and he fell, uttering his last raving words: "*The victory is ours!*" Thus ended a disgrace that was suffered to increase by the negligence of the government and the prestige of the marvelous, with one scandal and one victim, and thus renewing in completeness a scene of the middle ages, which should have been averted by confining, long before, the hero of it in a lunatic asylum.

The asylum reproduces to us the evolution of the religious sentiment in all its phases, all its examples and all its deformities. A band of hallucinates repeats the miracles of the mystics, the torments of the witches and the stories of the founders of religious sects. The eccentricities of some of the founders of a new religion sometimes give a new tint to society and to an epoch. The history of rites, of offerings, of mutilations and sacrifices, proves this fact. Mere eccentric individualities are faithfully reproduced in the asylum. A peasant, impelled by religious delirium, becomes a wandering pilgrim, without home or family, seeking a sanctuary. No sooner does he reach this than his delirium augments, and the madhouse is his goal. Here is reproduced the olden pilgrimage. Instead of this we see another shunning society and never



quitting the dark corner of his chamber. If he ventures outside he loses himself in populous open places. This creature reminds us of the cenobites.

Fastings, torpor, insensibility to the rigors of the seasons or the rays of the sun, which we find recorded of the solitaires of the Thebaid and the ecstasies of India, are facts which are reproduced to the very letter, in some lunatics, whose sensibility has been profoundly benumbed.

A rustic, the son of weak-minded parents, subjects of pellagra, is brought to the asylum. He is rigid in his movements, insensible to deep punctures; he loves to hold his eyes long-fixed on the sun, which he looks on motionless, concentrated in the thought that he is enrolled and decreed to be one of the blessed, seated by the side of God, with his parents. He is tall, his complexion brown, his physiognomy elevated and broad, his pose Olympic, in an armchair. He is a true ecstatic; he feels blest above every other human being, for he is the elect of the Lord; his speech has the color of such profound conviction that some of his fellow-inmates come to kiss his forehead or his bosom, as if he was a real saint. Do we not see thus repeated the same facts that for ages took place in the recesses of cloisters and in the cell of the anchorite? The sacrifice of ourselves, the offering of our own sufferings, to a Supreme Being, naturally springs from two opposite ideas—the low estimation of ourselves and the incomprehensible greatness of the Divine Being. Join together the disorders of a sensibility injured by fastings, watchings and meditations, and there is no room for wonder when delirious acts succeed to intellectual errors. Hence came the self-inflicted martyrdoms of the Fakirs of India, the bastinadoings of the devotees that came to the temple of Diana, the flagellations of monks and anchorites, the tortures of the flesh and the torments of the spirit.

The asylum lodges not a few of the martyrs of religious delirium. A vendor of images came on a pilgrimage some years ago to the temple of St. Anthony in Padua;

on reaching it he halted outside, absorbed in prayers, then drawing forth a small sickle he cut clean off his left ear, and would have done the like with the other had he not been prevented. When conducted to the hospital he stated that the idea of making that offering had accompanied his whole pilgrimage.

Imitation of the founders of religions has inspired the practices of their followers and priests. A strange emulation was established in the past among some religious orders in the form of competitions for the primacy of the graces granted by the Redeemer, such as sores, punctures and blackenings; as happened among the disciples of St. Dominic and those of St. Francis. What then happened with epidemic character is to-day repeated by some hallucinated mystics. Sovati, of Venice, finished by imitating Jesus Christ by crucifixion; he was found with his feet and one hand nailed to a cross and the other hand in a noose which was fastened on the other arm of the cross.

All the fumes of mysticism, from the most pure ideality to the most extravagant aberrations, are exhibited in the delirium of the insane. Preachers and reformators of morality and religions are numerous in the asylum, but they are not *all* there.

At the close of the last century, a man of elevated mind and of superior culture, addicted to profound lucubrations and prone to mysticism, was traveling over Europe. In a lodging in London, whilst dining alone, he suddenly saw a man seated in the midst of dazzling flames, and he heard a voice saying to him: "*Do not eat so much.*" His sight failed him for a time, but after coming to himself he had the same vision in the night; the Lord revealed to him that He had chosen him as an interpreter of the Scriptures. From that day the visionary renounced offices, honors and riches, bestowing all in charity; he undertook an apostleship, interpreting the sacred writings in his own fashion; he succeeded in drawing to him followers in the chief cities of Germany,

and he closed his travels by fixing the seat of his new faith in Paris, where he numbered among his adherents families of high regard, both as to wealth and nobility, and where not yet has every trace been obliterated of the devotees of the *Swedish Swedenborg*.

In the history of mysticism we often see the meditative element associated with the most potent sensuality. A vague sense of unsatisfied physical love leaks out in the visions and torments of the ecstasies. The *Canticle of Canticles* is the note in closest accord with that nervous state, and it is always capable of arousing a tumult of erotic images in those predisposed to nervous disturbances, who repeat it and meditate on it between their prayers. The proofs of this are by no means scarce; the eloquent confessions of St. Catharine, and of that elect genius and steadfast spirit, St. Theresa, might suffice; not to speak of the exaggerations of Sister Alacoque, the foundress of the devotion known as the *Sacred Heart of Jesus and Mary*. This worship had its origin from the reciprocal gift which Jesus Christ and Sister Alacoque made of their hearts; the compact was signed with the blood of the sister, as Satan signed with the blood of his followers the contracts made with them.

In the religious ravings of the middle ages sensuality was one of the dominant tints; the history of witchcraft, with its Sabbaths and its Macaber dances proves this.

So then, both outside and inside of the asylum, just as for every other sentiment, also for the religious, the human heart has similar cords; and the history of religions, with their enthusiasms, their triumphs and their immolations, may be read in the asylum in the hysteric, the epileptic and the melancholic theomanias.

## PSYCHICAL OR PHYSICAL.\*

AN INQUIRY INTO THE MIND AND MATTER PROBLEM.

By C. H. HUGHES, M. D., St. Louis.

WE live in an age of scientific surprises, especially within the realm of those sciences which have to do with the origin and nature of man, and are "making grand and not altogether fruitless efforts to unroll the secret of the human mind,"† but thus far the microscope, the ophthalmoscope, the re-agents of an advanced and advancing chemistry, and all the appliances of modern psycho-physiological and psycho-pathological research, have served to reveal to us but dimly, the neurotic pathway over which thought travels within the brain, or the actual dwelling place and origin of special mental activities. With these telescopic aids to mental vision, the cerebro-histologist obtains an enlarged, although not as yet an altogether satisfactory view.

As Moses was permitted to look over into the promised land, so we are enabled to look within "the dome of thought," and locate the dwelling place of mind *in the aggregate*, in the free surfaces and convolutions of the hemispheres of the cerebrum, and of the ventricles, perhaps, but not to possess and occupy the particular portions of the brain concerned in the special functions of mind. In our physiological psychology, the *locus psyche* is still enveloped in a somewhat nebulous obscurity.

We also discover an intimate relationship between psychical manifestations and physical action, but how mind acts with and through, and how it is influenced by and with the molecules of the brain, we have not been

\* Read before the Association of Medical Superintendents of American Institutions for the Insane, at the meeting held in Nashville, Tennessee, May 19, 1874. Revised and now republished by request, and especially to correct typographical errors, as the proof was not originally corrected by the author, and to place the author's views on a subject still *sub judice* again before the profession.

† Preface to "Philosophy of Style." Herbert Spencer.

enabled to determine in a manner so satisfactory as to leave the reason and consciousness no room for dissent.

As the field of scientific research enlarges, and investigations increase therein, it is not improbable that some of the earnest votaries of psycho-pathological and physiological science may yet trace the actions of the mind to their true locality in the brain, and reveal in very truth the ideational, emotional and sensory cells, their chemical, anatomical and isomeric states, by, perhaps, an enlargement and multiplication of our present methods of research. The thought molecule, if it ever be found, will probably be discovered to be more subtle and infinitesimal in its organization than any nerve cell yet revealed to us by microscopic vision. The ideational cell may ever remain what the atom is to chemistry, a thing of conjecture, resting solely upon plausible supposition. That there are, however, cerebral thought molecules which have to do with the evolution or manifestation of thought in *mens sana* and in the manifestation of *mens non sana*, investigation up to the present day, gives us just warranty for the conjecture, and whether we shall ever be able to demonstrate the fact or not, beyond the possibility of doubt, we may as safely assume this, as to assume the ultimate atom.

The conjecture is as plausible as the undulation, or the emanation theory of light, or the undulation theory of sound, or other theories in physics or chemistry. The doctrine of molecular disintegration accompanying the manifestation of thought, is the analogue of that other doctrine, first advocated in 1851, by my gifted friend and preceptor, Dr. J. H. Watters,\* late Professor of Physiology in the St. Louis and Missouri medical colleges, that muscular disintegration is the condition of muscular action, and which was incorporated by Dr. Carpenter in his "Physiology," and is now generally accepted as true by all physiologists.

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\* "Thesis for Degree of Doctor of Medicine," by J. H. Watters, University of Pennsylvania, 1851.

There can be no doubt that the general result of cadaveric examinations, whenever mental derangement leaves any pathological sequelæ, is to discover lesions of the cineritious matter, the meninges or the ventricles, along with those destructive changes elsewhere found in the cerebral mass (extensive softening and other lesions of the white matter being often unaccompanied with insanity), though Rokitansky, Andral, Virchow, Vanderkolk, Leidersdorf and the later pathologists speak of inflammation of the dura mater\* in connection with insanity; and circumscribed affections of each and all the meninges, and every part of the brain have been described and numberless microscopic lesions as co-existing with partial or general mental aberration, by accurate and credible investigators in psycho-pathology. This is the experience which all of us have gained in the dead-house, and though we are not in a position, as regards our knowledge of the morbid appearances of the brain, to frame a proper nosology, embracing all the forms of insanity, as discovered to us in the different symptomatic manifestations; and though we cannot find an absolutely unerring definition of the disease, based solely upon the pathological evidences, it is nevertheless reasonably certain that the whole brain being the recognized organ of the mind in its healthy, natural action, does not cease to be the organ of the mind when its manifestations are disordered and unnatural; and it is, perhaps, beyond a reasonable doubt that "important molecular changes do take place in those hidden recesses of the brain," or those nervous channels of communication which lead to and from the mind, but to which we have not yet, by sight of science, been enabled clearly to penetrate; but which the scalpel, the microscope, and the re-agents and appliances of advancing chemical physiology and pathology, may probably some day more intimately and clearly reveal to us, and that those atomic changes *accompany, precede* and *follow* the rational and irrational manifestations of mind; that they will be found to be the media through and



by which both the healthy and morbid, or natural and unnatural impressions and expressions find access to and egress from the mind. Matter and force in this sense, are to us necessary co-existents in human thought; to speak of change in one may be admitted, as Maudsley asserts, to imply change in the other; and I think we may confidently look to future revelations, through psychopathology and physiology with the chemical, microscopic and other aids which future science is to bring to our assistance, for a correct and satisfactory material explanation of all the *phenomena* of the mind, natural or unnatural, healthy or diseased, manifest to the world without. I mean the *manifestations only of mind, not the mind itself*. I apprehend that mind in its highest sense—the  $\Psi\chi\alpha$ —can never be demonstrated to be the product of matter, any more than matter can be proved to result from mind. Neither of these propositions seem to us capable of demonstration.

It is not always necessary, however, to demonstrate a proposition before we can accept it as true. A proposition\* may be accepted as true when the mind cannot conceive of its negation by the facts of science. It may not be reachable by a process of reasoning, and yet be an admitted truth to our consciousness. We have in this world to accept many such unreasonable but irrefutable truths.

Forms of matter may depend upon mind for the appearances they present; so may and do forms of thought depend upon matter for their manifestation or expression. The germs of thought and thought molecules may have a simultaneous birth (if we can conceive of the birth of either), and together develop and mutually act and react upon each other in their manifestations. In this sense we agree with Dr. Maudsley—that brain and thought are co-existent. That they are so, will perhaps always remain to finite comprehension as great a mystery as that God and matter co-exist, and which we

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\* Herbert Spencer.

regard as Creator and created. It would be as logical to assert that God came *from* matter because he is only manifest *through* it—the matter and force co-existing so far as we can discover by the light of science alone—as to assert that mind proceeds *from* the matter with which by the aid of science, we discover it to be invariably in association. We glean from revelation that “the world by wisdom knew not God,” nor has the wisdom of unaided science yet revealed to us more of the knowledge of the nature of God than we received before science had its birth. Science can not, by any of the revelations it has thus far given, show to us the priority of either God or matter. Through the teachings of revelation and the argument of design and designer, we may believe that God created matter; but science, by its own light alone, can neither affirm nor deny that “the heavens declare the glory of God, or the firmament sheweth his handiwork.” Science deals with tangible and material facts, and its conclusions must ever be essentially material. It may, however, with the light of revelation before it, confirm the truth of revelation that God preceded matter and created it,\* without disjoining any of its established truths, or retarding its progress toward a solution of all those problems which it is reserved for man yet to solve in the arcana of nature.

By light of revelation and the attestation of the general innate consciousness of mankind, and not by scientific investigation, we perceive that “there is a spirit in man,” which, though it manifest itself in as we see by the “sight of science,” and is impressed by decaying cerebral molecules, is nevertheless to be recognized in man, in the same manner as the impress of the Creator’s spirit may be seen in the works of animate and inanimate nature.

We do not prove the precedent or consequent of God and matter, or mind and matter, but may assume either, from the facts which science, unaided by revelation, gives us, and be equally correct in our logic. We believe in

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\* “In the beginning God created the heavens and the earth.”

the impotence of science on the subject. We do not know that "mind is the highest development of force to which all the lower natural forces are indispensably pre-requisite."† We would rather alter the phraseology and say the highest development of matter is indispensably requisite for the perfect manifestation of that intangible and immaterial force we call mind, though it may assuredly be laid down as a truth, that "whatever may be the real nature of mind and of its nature, we shall probably forever remain ignorant" while retaining our own mortality; "it is most certainly dependent for its every manifestation on the brain and nervous centers, and scientific research is daily disclosing more clearly the relation between it and its organ."

Anatomy and physiology teach us pretty thoroughly what are the nature and function of the brain, as a whole, but the mind, as Maudsley correctly observes, cannot be observed and handled and dealt with as a palpable object, like electricity or gravity, or any other of the natural forces (if these may be properly termed "palpable objects"). "It is appreciable only in the changes of matter which are the conditions of its manifestation." We may concede the pre-existence or co-existence of mind in connection with its manifestations through matter, as we accept an axiom as a self-evident truth, incapable of and not requiring demonstration by process of reasoning; and we are still prepared to admit the truth of the revelations which modern science seems to have made in regard to the change taking place in the substance of the brain during thought; that "in the performance of an idea as in the performance of a movement, there is a retrograde metamorphosis of nerve element, and that the display of energy is at the cost of the highly organized matter, which undergoes degeneration, or passes from a higher to a lower grade of being," and that the retrograde products are, so far as is at present known, very nearly the same in cerebral as in

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† Maudsley.

muscular disintegration, under the influence of functional activity, and arrive at the logical conclusion of physiological psychology, that disintegration of the cerebral molecules is the law of the display of mental power.

We can subscribe to the doctrine, that with each display of mental power there are correlative changes in the material substratum (if we choose so to designate the brain), and admit without subscribing to the doctrine, that mind is the product of matter, under any condition of change; that every manifest *phenomenon* of mind is the result or accompaniment to our senses, of some change—molecular, chemical or vital—in the nervous elements of the brain. This is only making the brain (what has long been admitted, and what science seems fully to demonstrate) the material organ of the mind—a material medium through which it impresses itself upon matter and through which it communicates with other minds.

The proposition that nerve change precedes mental action, is surely not proven in the fact that “chemical analysis of the so-called extractive of nerves testifies to definite change or waste through functional activity;” surely this is not proven in the fact that, “the products of retrograde metamorphosis are lactic acid, creatin, uric acid, hypoxanthin, formic and acetic acids,” etc., etc., or that the products of the metamorphosis of nerve element after prolonged mental exercise are recognized by an increase of phosphates in the urine, or that the contents of nerve and muscle, neutral during rest in the living state, become acid after death, or after great activity during life, nor by any other of the chemical facts connected with the retrograde change or decay of nerve tissue, with which we have of late years become familiar.

We may explain the exhaustion following excessive mental labor, and the breaking down of brain in extreme cases, “as in recognized insanity, by supposing an idea to be *accompanied* by a correlative change in the nerve cells,”\* and yet the supposition brings us not much nearer

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\* Maudsley.

to a correct comprehension of that "marvelous energy which can not be grasped or handled, and which we call mind," than if we had not made the conjecture.

We may concede the supposition to be a universally admitted fact, established by adequate and indubitable proof, and still mind remains unobserved, unfelt, unprobed by any of the implements of science; and as science can probably never devise methods of investigation as delicate and subtle as mind itself, it is probable that mind, aided by revelation, and the testimony of consciousness will have to be the interpreter of its own nature, employing all the lights which science emits to illumine the avenues which lead to and from it, interpreting by sight of science and self-interrogation, the influences which operate upon it, and the laws which govern its manifestation, and "the display of its powers."

Science will doubtless still further reveal to us, if the present evidences of the fact are not adequate to convince us, that the birth of every idea (if we may so speak) to the outer world and to self-consciousness, is accompanied with the death of cerebral cells, and that the death of these cells is the condition and accompaniment of the manifestation of thought.

Under this view (so speaking for want of better phraseology) we may consider that matter and the power of intellectual manifestations, have co-ordinately developed, during the ages that have passed and are still in the process of development; or, with Dr. Maudsley, we may say that "man's life truly represents a progressive development of the nervous system, none the less so because it takes place out of the womb than in it," and that "co-ordinate action always testifies to stored up power, either innate or acquired," by which I understand latent nerve capability for *manifestation of power* without abandoning the idea maintained by the ablest physiologists of the day, that mind has also a presiding power over matter.

Under this view we may admit that "just as a good

liver secretes good bile (provided the conditions of the blood are favorable), a good candle gives good light, and good coal a good fire" (provided the two latter have a good supply of oxygenated air, and the essential conditions to the development of light and heat, *ab initio*, friction, chemical action or ignition), so does a good brain (all other conditions being favorable) give the manifestations of a good mind, without admitting that\* "when the brain is quiescent there is no mind," and without regarding the mind as nothing more than "the result of cerebral action," as maintained by those who would merge the psychical into the physical in man. "Granted that a definite thought and a definite molecular action in the brain occur simultaneously, we do not possess the intellectual organ, nor, apparently, any rudiment of the organ which would enable us to pass by a process of reasoning from the one phenomenon to the other; they appear together, but we do not know why."†

There is a power which precedes and ignites the flame and the fire as well as that which proceeds from them. A spark of mental and spiritual light in man antedates as well as accompanies the disintegration of the cerebral mass.

We are persuaded that there is a mental vision in man, superior to that of the eye and the microscope, a mental touch, penetrating further into the nature of mind than the scalpel of the histologist, or the re-agent of the chemist can reach, by which he sees and feels and knows that he is something more than matter, or the offspring of matter. Our consciousness attests this, we feel it to be true, and consciousness is as the poet has said of faith, "a higher faculty than reason,"‡ or rather more accurately, we might say, the basis of all the higher mental faculties. Saying that I feel pain, or hear a sound, or see one line to be longer than another, is§ "saying that there has occurred in me a certain change of state, and it is impossible for me to give a stronger

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\* Hammond.

† Tyndal.

‡ Bailey's "Festus."

§ Herbert Spencer, "Test of Truth," page 384.



evidence of this fact than that it is present to my mind. The tissue of every argument is resolvable into affections of consciousness that have no warrants beyond themselves. When asked why I assert some mediately known truth, as that the three angles of a triangle are equal to two right angles, I find that the proof may be resolved into steps, each of which is an immediate consciousness that certain two qualities, or two relations, are equal or unequal; a consciousness for which no further evidence is assignable than that it exists in me, nor, on finally getting down to some axiom underlying the whole fabric of demonstration, can I say more than that it is a truth of which I am immediately conscious. \* \* \*

For each truth of geometry we are able to assign some under truth in which it is involved; for that under truth, we are, if required, able to assign some one still under, and so on.

This being the general nature of the demonstration by which exact knowledge is established, there has arisen *the illusion that knowledge so established is knowledge of a higher validity than that immediate knowledge which has nothing deeper to rest on.* The habit of asking for proof and having proof given in all these multitudinous cases, has produced the implication that proof may be asked for these ultimate dicta of consciousness into which all proof is resolvable.

Consciousness is the primitive rock upon which must rest every secure fabric of reason, and we may say here what† Herbert Spencer says of all philosophy, "if it does not avowedly stand on some datum underlying reason, we must acknowledge it has nothing on which to stand." "The result of refusing to recognize some fundamentally proved truth is simply to leave its fabric of conclusions without a base."

In one creative act, the material and the immaterial in man were brought forth (according to the story of revelation), and they have ever been so intimately

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† "Test of Truth," page 412.

blended, that science—though prying into the secrets of nature since the world began—has not yet discovered where the one ends and the other begins. Corpuscles, molecules, cells and protoplasm may constitute the whole of man, but science has not demonstrated it to be so.

If science shall ever demonstrate thought to be material, it would probably be found to be of so subtle a form of materiality, and possessed of so much volition in many of its manifestations, as to confound, confuse or abolish our present ideas of matter, and alter our definition of its properties; a form of matter much akin to that something which we all recognize as existent from all eternity, and to which we could, perhaps, give no better name than mind—the impress and image of God.

Perhaps we shall then find our logic justifying us in accepting the idea as true, that so subtle a form or "force of matter" as thought, would have to be entitled to precedence in the order of existence over the cruder forms manifested to our senses. The formative stages of matter (so to speak), and the doctrine of disintegration as the origin of "mind viewed in a scientific sense," might have to be reversed or exploded. We should view mind in relation to matter much as we now do, and as Locke viewed God in relation to mind and matter: "There is no truth more evident than that something must be from all eternity. I never yet heard of anyone so unreasonable, or that could suppose so manifest a contradiction, as a time wherein there was perfectly nothing. This being of all absurdities the greatest, to imagine that pure nothing, the perfect negative and absence of all being should ever produce any real existence."

The chemical and microscopical study of brain and nerve cells may possibly yet reveal to us the exact line of demarkation between purely physical and psychical phenomena; but so long as consciousness exists to attest the truth of conclusions derived from facts, and volitional power remains to the human mind to pursue investigations and accept or reject as truth their results, so long

will psychology and physiology go hand in-hand in the study of mind. We cannot by any process of science account for the birth of tangible matter. Science can only deal with its forms; its varied and ever varying changes of state.

The study of the universe of matter, its disintegrations, aggregations and motions, leads to God. Here science must ever stand awe-stricken and confounded in the presence of the incomprehensible, omnipotent, immaterial, who either gave matter its existence and impressed upon matter its laws, or received from matter and its laws His existence, if the light of revelation be excluded. We believe, not from science but from revelation, that matter came from God; and all the facts which science teaches relative to the material universe, do not disprove this belief. The study of the brain cells, their structure, development and decay, leads us in the same manner to view the incomprehensible, immaterial, volitional mind; and man stands in the presence of his own immortal spirit, so intimately blended as mind is with matter, astonished and confounded.

We choose to accept as true the revelation that "there is a spirit in man," in the sense in which the term is now distinguished from matter, until science shall give us more light; and to regard that spirit as influencing and influenced by (in its manifestations to the world without) the material media—the brain, nervous and whole physical system. Accepting this view as true, all the facts revealed by science only tend to confirm it.

A part of that "divinity which shapes our ends" resides in the power within us, which disposes of and distributes the thought molecules of the ideational centers; forming ideas, impressing them upon consciousness and transmitting them as "tangible thought products," through molecular disintegration of the cerebral cells to the world without, or storing them away as the carriers of reserve mental power, for still further use by

the ideational centers. Man both uses and is used by his brain; he both modifies and is modified by his organism.

The tyranny of a good or bad organization and the power of the most indomitable human will, both play their respective, but mutually dependent parts, in the drama of life. Nevertheless, man is to a great extent the creator of himself; and has been not inaptly termed "the architect of his own fortune." Within the limits which God has assigned him, he may dwarf or enlarge his capacity and powers, through changes in the convolutions and structure of the brain he employs, which to the mind is as the weapon to the warrior, the pencil to the artist, or the implement to the mechanic. The volitional mind by its manner of using the brain, may add to or take away cerebral atoms, and thus diminish the power of mind manifestation. The one process is mental neglect, the other is education. The volitional part of the mind, by the manner in which it makes use of material agencies and immaterial impressions—by the manner in which it throws the whole mind in contact with, or withdraws it from material and immaterial influences, may cause the mind to grow in power of manifestation through changes in the substance and quality of the brain. The volitional part of the mind in youth may predetermine to a great extent what it shall be in age, and what the body shall be.

Perhaps by "taking thought man cannot add one cubit to his stature," but by taking thought of the kind and amount of mental and physical exercise, and quality and amount of food, and rest and sleep, essential to the development of the fullest manhood, he may make himself as a man, almost what he will. His power to accomplish will be limited only by the limits God has assigned to the human race, and modified only by the degree of perfection or imperfection inherited in his organism.

The physical state of the body or brain at any particular period of life, serves to encourage or depress

action and modify results, but they have not been proven to be the origin of mental volition, though they influence or modify its manifestation.

We have admitted the invariable connection between brain power and the power of mental manifestation; but the brain is still, in our view, the servant of the mind, though the latter is influenced by the states of the former, in the manifestations it makes to the world. The brain serves the mind, and yet the mind is dependent upon the brain, just as the master is, in a sense, the servant of his servants, and dependent upon them.

A good general's success depends upon the number and condition of his men as to health, position, equipment, etc. They are the exponents of his military skill. He may have the power and be capable of overthrowing the enemy with the means at his command, but if an epidemic attack and decimate his forces, impairing the organization upon which he depends, he cannot demonstrate his power—failure may take the place of what might otherwise have been victory.

The physical brain of man, in our opinion, can no more be demonstrated to be the origin of the entire mind, than can an army be proven to be the commanding general, though every integral part of it be power or a source of its manifestation. Through the material organization of man he impresses himself upon the material world, and communicates his spirit's thoughts and emotions to his fellows.

An intelligent power presides over and is influenced by the destructive material changes, by which the power of steam is made manifest in the ten thousand forms of mechanical adjustment, known to the world; so an intelligent and voluntary power, influenced in its communication with the material world by cerebral states—molecular disintegration and brain imperfection—is manifest in the action and communication of mind upon and with the material and moral world.

There are many more things in the reciprocal action

of mind and organic element, than "are yet dreamed of in our philosophy," and we fully concur with Dr. Maudsley that :

Notwithstanding we know much and are daily learning more of the physiology of the nervous system, we are only on the threshold of the study of it as an instrument *subserving* mental function.

We regard it as too probable for the successful refutation of science, that He who ordained the sciences as He ordained the planets to revolve in their orbits, has set a line of demarkation between finite and infinite penetration, and said to mind as He has said to the sea : "Thus far shalt thou go, and no farther," though we may never discern the boundaries of that omnipotent limit.

We may, without surrendering pre-existing views, regard mind, as manifested to us, as so closely blended with matter in the form of brain cells, that we cannot tell where one ends and the other begins—cannot draw a line of demarkation. We may therefore even speak of mind and brain as practically identical. We may consider a living, material organism as essential to the manifestations of mind, and the different manifestations or expressions of mind in health and in disease, as dependent upon the physical condition of that organism, just as the will power is dependent upon the healthy state of the organs which it controls for its expression or manifestation.

We consider mind in relation to molecular disintegration of the brain, and will power in relation to the muscular decay, which precedes or accompanies the "display of force," what the throttle valve is to the steam engine, or the power which regulates the galvanic battery is to the disintegration of the galvanic plates and the display of electric force. Defective machinery always works wrong, and if we see a steam engine out of fix and working contrary to its usual manner, or not working at all, we do not conclude that the engineer is sick, or dead, or absent, but that some screw is loose, or pivot is broken, or the fire is out, or the steam is down.



In the machinery of the mind and the physical organism, as in the machinery of God in the physical universe, the motive agent is hidden from our view. If the brain does not act aright, we may infer some cerebral screw is loose, some lack or irregular distribution of sanguine fire, some disproportion in the waste and repair of cerebral molecules exists, but we cannot logically conclude that the mind itself, which we see not, handle not, is impaired or diseased, because we cannot know.

Diseased mind is a convenient form of expression by which the mind, in its manifestations to our perception, is altered, just as the stars are obscured to our sense of vision, when the light of the sun veils them for the day. The emotions and manifestations of mind to the individual and to those about him, are changed by the obscuration or destruction of his senses.

The individual is not the same with sense of sight, or touch, or taste, or smell, or hearing impaired or destroyed, as before; and sometimes the change as it manifests itself to us is so marked, that we call it insanity.

In the language of Dr. Maudsley, again, "We recognize how entirely the integrity of the mental functions depends upon the bodily organization;" and as physicians we cannot afford to lose sight of the physical aspects of mental states, if we would truly comprehend the nature of mental disease. We "recognize the existence of an intelligent mental force, linked in harmonious association and essential relations with other forces, but leading and constraining them, and led and constrained by them in its manifestations."

We must also recognize the fact that the conscious mind of man is blended, in unity of development and action, with the unconscious life of his physical nature. We need neither assume that "mind is a function of matter," or that "matter is a realization of mind," in order to arrive at a correct general understanding of mental disease.

"We do not assume an immaterial liver behind the

hepatic structure in order to account for its functions," but we assume and do know of a material fluid out of which the bile is secreted, and we may as logically assume the existence of an immaterial mind, manifest through the function of the brain, as to assume the existence of a material pabulum in the blood before demonstrating it, out of which is formed all the special fluids secreted by the glandular organs of the body. The one is as self-evident as the instinctive knowledge upon which the existence of the soul is based, the other is evident to the senses. The one is simply an ocular demonstration, the other a fact evident to consciousness. The hepatic secretion is a tangible product, and we could reasonably infer, if we could not demonstrate, that it came from a tangible source. Thought is intangible, and we may more reasonably infer that its source is intangible than that it is the product of tangible matter.

Nevertheless we may, for the purposes of a correct understanding of what we term disease of the mind, or insanity, acknowledge "the essential unity of mind and body," as mind cannot be manifest to us except through the medium of a living, physical organism.

This view of the relationship between mind and body enables us to approximate to a correct understanding, in a general way, of the nature of the disease of mind, as we term it.

The proof that the brain is the organ of the mind, whether the latter be an intimately blended psychical entity, or an emanation from the former, and therefore physical, is pretty satisfactory to all physiologists; we need not, therefore, reproduce the proof, and the evidence has also been deemed quite sufficient, by modern psychopathologists, to warrant the belief that the cerebral seat of insanity is oftenest, if not invariably, found in some direct or indirect involvement of the gray matter, or free surfaces of the brain, though with our present means of investigation and the still comparatively meager light reflected from the dead-house, we do not detect cerebral

lesions in all cases of mental derangement. We do in a majority of instances, and we probably should in all instances, if our means of investigation were more accurate and satisfactory. I think we need not conclude that the probability of finding definite lesions in the brain to account for *ante-mortem* changes in connection with deranged mental manifestation, is "outside the realm of possibility," as Leidersdorf conjectured.

Maudsley most happily expresses prevailing sentiment of the profession, in regard to the dependence of deranged mental manifestation as witnessed in insanity upon morbid physical states of the brain, whether detected in our examination of the cadaver or not.\*

There may be, unknown to us, save as guessed from their effects, the most important modifications in the molecular activities of nerve element, changes in the chemical composition and actual defects in the physical constitution of the nerve centers.

Close to us, yet inaccessible to our senses there lies a domain of nature—that of the infinitely little—the operations of which are as much beyond our present ken as those that take place in the remotest region of space to which the eye with all its aids cannot reach, and of which the mind cannot conceive.

Or, as John Locke says:†

If a great, nay, far the greatest part of the several ranks of bodies in the universe, escape our notice by their remoteness, there are others that are not less concealed from us by their minuteness.

This is as true to-day as it was in the days of the great philosopher. What lies within our ken is but a small part of the universe of mind and matter, and "our reason carries us very little, if any, beyond certain matters of fact."‡

\* Maudsley, "Body and Mind," page 61.

† Locke's Essay, Book IV., chap. iii.

‡ Maudsley.

## Psychological Aspects of the Sexual Appetite.\*

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THE present subject may seem to trench on the prurient, which in Medicine does not exist, since "science, like fire, purifies everything," and what Macaulay calls the "mightiest of human instincts," is too intimately related to the physical basis of human weal and woe for any physician prudishly to ignore any of its phases. The anguish associated with sterility in the female, and the terror about impotence exhibited by the male, are familiar to every physician; nor should these phenomena be treated flippantly, since upon the perfection of the reproductive apparatus depends the position of the animal in the scale of evolution. The subject, hence, has important ethical aspects. Maudsley† has not stated the case too strongly when he says:

Were man robbed of the instinct of procreation, and of all that spiritually springs therefrom, that moment would all poetry, and perhaps, also, his whole moral sense, be obliterated from his life.

The hypotheses advanced as to the origin of the sexual passion have been multiform. One, just now gaining the ascendancy, was advanced by Clevenger‡ a little more than a decade ago, in the following language:

Dallinger and Drysdale have described how fission of the monad was preceded by the absorption of one form by another. One monad fixed on the sarcode of another, and the substance of the lesser or under one passed into the upper one. In about two hours the merest trace of the lower one was left, and in four hours fission and multiplication of the larger monad began. Leidy insists that the amœba is a cannibal, whereupon Michels§ expresses the opinion that each cannibalistic act is

\* Read before the Chicago Academy of Medicine, March 13, 1891.

† "Physiology of the Mind."

‡ "Science," 1881.

§ *Monthly Micro. Jour.* (London), 1887.

(if the term be admissible) a copulative one. Henry Lawsen\* agrees with Michels. Among the numerous hypotheses as to the origin of the sexual appetite none have referred its derivation to hunger. At first glance such suggestions seem ludicrous, but a little consideration will show that in thus fusing two desires, the meaning and derivation of the primary one, desire for food, is not explained. The cannibalistic *amœba* may, as the monad certainly does, impregnate itself by eating its own kind. Innumerable instances occur among algæ and protozoa, of this sexual fusion, appearing very much like ingestion. Crabs confuse the two desires by actually eating portions of each other while copulating. The *mantis religiosa* female eats the head off the male during conjugation. Some female spiders find it necessary to finish the marital repast by devouring the male, who tries to scamper away from his fate. The bitings, and even the embrace of the higher animals appear to have reference to this derivation. Association often transfers an instinct in an apparently outrageous manner. With quadrupeds, olfaction is most related to sexual desire and its reflexes; but not so in man. Ferrier searched the region of the temporal lobe near its connection with the olfactory nerve for the seat of sexuality; but with the diminished importance of the smelling sense in man, the faculty of sight has grown to vicariate olfaction; certainly the "lust of the eyes"† is greater than that of other special-sense organs among the bimana. In all animal life, multiplication proceeds from growth, and until a certain stage of growth, puberty, is reached, reproduction does not occur. The complementary nature of growth and reproduction is observable in the large size in animals after castration. Could the division of the *amœba* be stopped, a comparable increase in size would be effected. The seeming grotesqueness of these views is chiefly due to their novelty. While a primeval origin for both ingestive and sexual desire seems to have existed, and each seems a true hunger, the one being repressible, and in a higher animal life subjected to more control than the other, the question then presents itself: What is hunger? But little reflection serves to show its potency in determining the destiny of nations and individuals, and what a stimulus it is in animated life. Most probably it originated in atomic affinities of inanimate nature.

Later biologists have adopted Clevenger's theory. Ralph‡ evidently regards the process of fecundation as one of mutual digestion, for he says:

Conjugation occurs when nutrition is diminished—whether this be due to want of light, or the lower temperature of autumn or winter, or to a reduction of the organism to minimal size, it is a necessity for satisfaction of a gnawing hunger which draws the animal to engulf its neighbor; to isophagy. The process of conjugation is only a special

\* *Amer. Jour. of Micro.*, 1877.

† This is too strongly put. Olfaction has much to do with sexual desire in man, since olfaction is keenest in men.

‡ "Evolution of Sex."

form of nutrition which results on a reduction of the nutritive income or an increase of the nutritive need, in consequence of the above-mentioned condition. It is an isophagy which occurs in place of an heterophagy. The less nutritive and therefore smaller, hungrier and more mobile organism, we call the male; the more nutritive, and, as a rule, relatively more quiescent organism, the female. Hence, it is that the small starving male seeks out the larger well-nourished female for purposes of conjugation, to which the latter, the larger and better nourished, is on its motive less inclined.

Cienkowski\* considers conjugation equivalent to rapid assimilation, and these views are borne out by the researches of Maupas,† who has shown that:

Without conjugation the members of an isolated family of infusoræ eventually cease to feed and divide; passing through stages of degeneration and senility to extinction.

To a certain extent this view is borne out by the results of Drusing,‡ who, starting with the assumption that man, like vermes, was originally hermaphroditic, concludes that:

Sex is not inherited, but the result of various factors, acting not only at the time of impregnation, but at various times thereafter. Long after impregnation, when the embryo is already developed, nutrition is still influential, and may change the tendency even after the sexual organs have developed. Poor maternal nutrition may arrest female development and cause reversion to the male type.

This opinion that the female type is most highly specialized is borne out by the fact, that while the vermes are generally hermaphroditic, the comparatively high parasitic trematode, bilharzia, is not, but carries the female in a special organ with it, called the "gynephoric canal." This parasitism of the female on the male differs from the parasitism of the male on the female barnacle, in the fact that both trematodes are equally perfect types of the genus, while among barnacles the male's chief function is reproduction, and to this all other functions are so subsidiary that, while the female is a type barnacle, the male is seemingly so low a mollusc as to have been long regarded as a mere parasite on the female.

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\* "Evolution of Sex."

† "Arch de Zoologie," 1888.

‡ "Internat. Ctblt. f. die Phys. und Path. der Harn. und Sex. Org., B II.



This physical basis for the sexual passion seems to deal a *coup de grace* to Maudsley's claim for its ethical value. This idea soon disappears, when the tendency of a complex mental state to inhibit a simple explosive tendency, is remembered. The phenomena of sexual selection demonstrate that a complex mental state has resulted from the evolution of the simple search for physical sexual means of satisfying protoplasmic hunger. These sexual selection phenomena show that pleasure has ceased to be dependent on simple sexual conjugation since ideas of beauty, of attraction to the most beautiful, and of maternal love, have evolved from the sexual desire of satisfying protoplasmic hunger. Thus have been developed inhibitions on explosive sexual performances which tended to restrain egotism evident in the purely sexual propensity. Hence pleasure associated with conjugation with a given subject arose on sight of that subject, and sexual pleasure evinced itself in attempts to please the cause. These repressed explosive manifestations of the sexual appetite thus producing more intellectual and less obvious physical enjoyment of sexual society. By an ordinary law of mental association, attempts to please the cause of sexual pleasure, in themselves finally pleased without the presence of the cause. Thus developed romantic love which restrained egotism, and restraints on egotism constitute the basis of morality. Finck puts the case with equal force and truth when he states that:\*

Romantic love is a new æsthetico-moral sentiment destined to become the strongest of all agencies working for the improvement of the personal appearance, social condition and happiness of mankind. The composite nature of love is analogous with "over-tones" in music, between which and the elements of love there exists a wonderfully close analogy. In love the fundamental tone is the sexual relation—the fact that one of the lovers is male, the other female. This fundamental tone does not vary throughout nature. It is the same among animals and savages as among civilized men; and what distinguishes the passion of one of these groups from that of the other is alone the overtones of love, which vary in number, relative prominence and refinement. These overtones are individual preference, exclusiveness, jealousy,

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\* "Romantic Love and Personal Beauty."

coyness, gallantry, self-sacrifice, sympathy, pride of conquest and possession, emotional hyperbole and admiration of personal beauty.' The last is the æsthetic over-tone of love, and so prominent is it that it is commonly heard before and above all the others.

The evolution of romantic love began very early, since :

The characters of romantic love in the passion of animals are jealousy, coyness, individual preference and admiration of personal beauty. In passing from animals to man we find at first not only no advance in sexual relations, but a decided retrogression. Among some species of birds, courtship and marriage are infinitely more refined and noble than among the lowest savages; and it is especially in their treatment of females, both before and after mating, that not only birds but all animals show an immense superiority over primitive man; for male animals only fight among themselves and never maltreat the females. Romantic love depends on courtship, and of this savages have but three grades—capture, purchase and service. It is not likely that romantic love could arise in a girl whom a savage has knocked on the head and dragged off to his hut. The best man of modern marriages is a survival of the chief abettor in ancient marriage by capture. Purchase is the prominent survival of these types of marriage, although elopements are the sturdy relics of marriage by capture.

Geddes\* and Thomsen† practically endorse Finck's view as to early appearance.

Among birds and mammals, differentiation of the nervous system and the higher pitch of the whole life is associated with what only pedantry can refuse to call love. Not only is there often partnership, co-operation and evident affection beyond the limits of the breeding period, but there are abundant illustrations of a high grade of morality, of all the familiar sexual crimes and of every shade of flirtation, courtship, jealousy and the like. Those skeptical on this point should consult Buchner, whose work contains an overflowing wealth of instances.

Finck puts the case against "marriage by capture" too strongly. Tribal ethics of fetichitic origin sometimes combat romantic love within the limits of the tribe. Marriage by capture hence must often have been regarded by the captive as a flattering tribute to her attractions. That romantic love could and did arise from these marriages by capture, there is abundant evidence to prove. Marriage by capture persisted in Northern England and Scotland until late in the eighteenth century, and in Ire-

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\* "Evolution of Sex."

† "Liebe und Liebesleben in der Thierwelt."

land even in the nineteenth century. Sir Walter Scott quotes a Scottish matron as defending marriage by capture on the ground that her father never saw her mother until he brought her up from the Lowlands with several head of cattle, yet there was not a happier couple in the country.

In addition to the conflict with tribal ethics brought about by some fetichistically-based prohibition of consanguineous marriages, the labor value of women interfered with the germ of romantic love developed already in the mammals. The equality of the sexes in the division of labor, the ideal of certain female "reformers" of the present era, sank the mother in the fellow-laborer and caused an atavistic reversion to conditions beneath birds and mammals, analogous to the bee communities, where the males and queen bee carry on reproduction, while the imperfect "female workers" are the autocrats of the community. This is the ideal of the female "reformers:" a few degenerate females are with the males to propagate the race and then be removed, while the imperfect female "worker" reconstructs the world on the "bee" ideal. Evolution favors rather the nobler picture of Tennyson :

Either sex alone  
Is half itself, and in true marriage lies  
Nor equal nor unequal; each fulfills  
Defect in each, and always thought in thought;  
Purpose in purpose, will in will they grow,  
The single, pure and perfect animal,  
The two-cell'd heart beating with one full stroke life.

The intellectual element in the human sexual act is ignored by the average moralists, who predicate their conclusions on the purely physical factor. These "moral ideas" have led to attempts to abolish, not control the sexual appetite; have resulted in sexo-religious mutilations, like those of Origen and the Skoptzki, and have produced the morbid "Kreuzer Sonata." The marriage of, and offers of marriage made to, prostitutes by reputable men who have cohabited with them, show sexual ethics surviving

under very unethical conditions. Krafft-Ebing\* has thus thoroughly analyzed this:

Normal termination of coitus depends upon the orgasm's intensity, which, in the male, begins with continuous semen entrance into the membranous urethra from the seminal vesicles and ejaculatory ducts. In the female it develops more slowly, continues longer and is produced by a vivid reflex excitation in a lumbar cord center analogous to the male ejaculatory center, which causes muscular contraction of all the genital tube vessels. Sexual pleasure, on which sexual susceptibility depends, is due to psychical action in the cerebral cortex. Muscular contractions excited in a reflex manner occur in the orgasm, which may be produced by peripheral impressions or fantasy, the cerebral cortical process being the decisive factor. The occurrence and intensity of sexual pleasure depends upon the degree and manner in which the cortical center is affected by the state of the male or female generative organs. At the time of seminal vesicle distention or of ovule ripening, the cortical center is peculiarly sensitive, and *vice versa*. In women with feebly-susceptible cortical centers coitus is pleasurable only at the pre and post-menstrual period. Psychical conditions influence pleasure. Sometimes pleasure is excited only by a perverse action of the sexo-psychical center, like mutual masturbation or pæderasty. The male and female organism differs as to the orgasm and pleasurable sensation. The ejaculatory center in the female is much less susceptible as a consequence of education, and this function is more gradually developed by sexual intercourse.

While permanent absence of sexual feeling in healthy men is rare, there are many women in whom the ejaculatory center never goes into full activity, so that they never experience pleasurable coitus. It is not readily determinable whether this tardiness or suppression of pleasure be due to late or imperfect development in the spinal center or to an inhibitory influence from the cortical center. That the latter is sometimes the fact is evident in the case of women who permit coitus though avoiding pregnancy, and who, believing pleasure favors it, can suppress it by their will. This also explains why prostitutes are able to indulge in coitus *ad infinitum* without nervous over-excitation and over-exhaustion. In women with great but insatiable sexual desire the inactivity is due not to the inhibition of the cortex but to spinal center anomalies. (The career of Messalina affords an illustration of this. She, as Theophilus Parvin† states, boasted of coitus twenty-five times in one night, changing her male companion several times during this experience, then retiring exhausted but not satiated.) The peripheral irritation which causes ejaculation is produced by friction of the Krause corpuscles, which are the terminations of the sensitive nerves on the penis clitoris and vagina. Insufficient irritation of these pudendal nerves can of course act as a barrier to the ejaculatory reflex. Absence of pleasure in the female may be due to subjective influences

\* *Jour. of Cut. and Genito-Ur. Dis.*, 1891.

† *Gaillard's Med. Jour.*, Vol. XXXVII.

arising from insufficient friction of the glans clitoridis, due to genital abnormality or anæsthesia. Objective causes may be, premature seminal emission, withdrawal and the use of preventives. Other causes of pleasure absence in the female are great insusceptibility of the spinal center from either imperfect exercise or psychic inhibitory influences, or cortical insensibility. The causes which, in the male, are more complex, are inactivity of the cortical center (anæsthesia), which is sometimes, though rarely, congenital, but generally arises from neuroses like neurasthenia and hypochondriasis. Usually desire is absent and occasional pollutions are the only intimation. The psychical factor is evident from the dreams accompanying the pollutions that do not involve females in voluptuous poses but perverse images. Inactivity of the ejaculatory centers, hence, cannot result from cortical inhibition, else the erectile centers would be involved. Where inactivity results from lumbar and other organic cord diseases, or from functional neuroses, the erectile center may be involved. Here desire may be great, as sometimes at the outset of neurasthenia. Aspermatism or peripheral genital apparatus disease (anæsthesia of the genitals, urethral anæsthesia, paralysis of the expulsive muscles of the semen) may cause this. Where pain in lieu of pleasure results prostatic or membranous urethral anatomical changes may be present.\*

The strength of the psychological element is further shown, as Tarnowsky points out, by those cases of pure so to speak, sexual perversion, where:

The first manifestation is not toward females but toward males. The boy is more ashamed to undress himself before strange men than before females. He later seeks the society and caresses of men. He feels a strong attraction to a well-developed man and follows him everywhere.

This persistence of this psychological element indicates that it must have been acquired early, since the original bisexuality of the ancestors of the race shown in the rudimentary female organs of the male could not fail to occasion functional if not organic reversions when mental or physical manifestations were interfered with by disease or congenital defect. It seems certain that a femininely functionating brain can occupy a male body, and *vice versa*. Males may be born with female external genitals and *vice versa*. The lowest animals are bisexual and the various types of hermaphrodism are more or less complete reversions to the ancestral type. That the femininely functionating brain alone should be developed at times

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\* "Die Krankl. erschein. des Geschlechtsinnes."



with its psychical consequences is to be expected. The sexual psychical phenomena of one of the best observed cases of true hermaphroditism, which prior to the menopause are attracted by males and subsequently by females, is an illustration in this direction.\* This has been pointed out by Windle,† who says that:

An approach to the masculine type is not unfrequently observed in the human female after the climacteric period, and one still more remarkable in the cases described of certain birds, such as Hunter's pheasant, and the duck mentioned by Home, which after laying and hatching for some years, assumed the plumage of the drake and attempted to perform the generative functions proper to the opposite sex. Not the least remarkable feature in connection with the secondary sexual characteristics of hermaphrodites is the fact that one type may predominate in one portion of the body and a second in another. This has been frequently observed in the lower animals, and is most strikingly observed amongst the lepidoptera, in which class the marked sex differences render any mixture the more easily observable. This mixture of characteristics may also be observed in the human being, as in the case described by Marc, in which the left side was provided with a testicle and the right with an ovary. The upper half of this individual resembled that of a female, the face wanting hair, and the thorax being provided with well-formed mammæ, with nipples; the lower half, on the contrary, was of the masculine type. The psychical characteristics of hermaphrodites appear to correspond in many respects with their secondary sexual peculiarities. Those whose type is nearly neuter but still masculine, appear to want all sexual instincts, and to be weak and timid mentally. In some cases of androgyny a strong sexual desire has been shown towards females.

G. Frank Lydston‡ has also shown that:

Many cases of so-called hermaphroditism are not a mixture of male and female organs, but practically neuters, being incapable of exercising the functions of either sex.

These, as well as the exceptions, result from the varying degrees to which the central nervous system is atavistically affected. One of the most interesting exceptions is reported by Dr. C. W. Fitch§ of Bridgeport, Conn.:

CASE I.—A twenty-eight year old San Salvador domestic was arrested for prostitution, in whom both female and male organs were found in a remarkably well-developed condition. The labia majora were of normal size, but flattened on their anterior surface. The labia

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\* "Case of Hoffman," Tidy, *Legal Medicine*.

† *Brit. Med. Jour.*, 1886.

‡ *Medical and Surgical Reporter*, 1889.

§ *Medical Standard*, January, 1891.



minora and the hymen were absent. The vagina was spacious, four inches and a quarter long anteriorly and six inches posteriorly. The os uteri was torn on the left side. There was profuse leucorrhea. Seven years before she had given birth to a normal female infant. In place of the clitoris there was a penis, which, when in erection, measured five inches and a quarter long by three inches and five-eighths in circumference. The glans penis and the urethra were perfectly formed. The scrotum, which was two inches and an eighth long, contained two testicles about an inch in length and two inches and a half in circumference. The mons Veneris was sparsely covered with short, straight, black hair. Both sets of organs were perfect in their functions, semen being ejected from the penis and the ovaries capable of producing eggs. Scanty menstruation occurred every three weeks and lasted but two days. Sexual gratification was equally distributed between the two sets of organs. Up to about seven years before masculine clothes had been worn, but when pregnancy became apparent, the local authorities compelled her to assume female attire. Dr. J. K. Crook lately reported a similar case to the N. Y. Academy of Medicine, where the penis was imperforate. Dr. Grace Peckham knew of several allied cases. Dr. McBurney, at the instance of Dr. Hance, had, by a plastic operation enabled the victim of an allied deformity to pass urine in an erect posture. The sexual inclinations of this being varied with its dress—male dress inclined it to the female sex—female, to the male. Its “sister” had an allied deformity.

The case cited by Dr. McBurney illustrates that sexual perversion may result in pseudo-hermaphroditism, from experiments by females with the enlarged clitoris of the pseudo-hermaphroditic female, or by males with the cleft of the pseudo-hermaphroditic male. Such experiments are frequently noted in the history of hermaphroditism, and Windle says in this connection that:

Too much stress should not be laid upon sexual passion as indicating a masculine or feminine cast of mind, since persons distinctly female, like the *confriatrices* of the Romans, and the *τριβάδες* of the Greeks, preferred sexual intercourse with their own sex, to the complete exclusion of the normal coitus. Apart from psychical characteristics of a purely sexual nature there is abundant evidence to prove that androgynous subjects, even with testicles of a fairly developed type, who have been brought up as females, may bear themselves in all things so womanly as to lead to no suspicion as to their real nature. Thus the case in which an androgynous subject thrice entered the married state, would tend to show that since the individual was not physically attractive nor wealthy, his mental characteristics must have been more than ordinarily womanly and pleasing.

G. Frank Lydston reports a case illustrating this “education:”

CASE II.—A young mulatto had marked hypospadias, and an affinity for women, since he contracted a gonorrhea in the normal manner. He also had a predilection for the passive *role* in the act of copulation, as a number of young lads, ranging from ten to seventeen years of age, who lived in the neighborhood in which the spurious hermaphrodite was employed as a cook, contracted gonorrhea from him.

In these cases the psychical results are obtained by an "education" similar to that which develops sexual pleasure in frigid women. Duncan points out that sexual pleasure is frequently absent at marriage, and gradually developed during the continuance of that state. These abnormal sexual phenomena do not destroy the validity of Maudsley's claim, which is further borne out by the existence of sexual perversions. The excessive action to accomplish a given purpose, which the race has acquired through centuries of evolution, being removed, the animal in man springs to the surface. Soury,\* in his discussion of pathology in history, points out that:

Historical psychology shows that prolonged exercise of power by marring the moral force in man (that bridle which restrains our passions, tempers our desires and controls our instincts) reduces the mind to an irritative enfeeblement in which it is no longer master of itself, but yields to all the suggestions, and obeys all the impulses of the cynical, cruel beast which is at the bottom of human nature.

These take the form of sexual perversions, thus classified by Lydston:

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|---|----------|--|
| <p>I.</p> <p>Congenital and perhaps hereditary sexual perversion.</p> | <p>{</p> | <p>a. Sexual perversion without structural defect of the sexual organs.</p> <p>b. Sexual perversion with defect of genital structure, <i>e. g.</i>, hermaphroditism.</p> <p>c. Sexual perversion with obvious cerebral defect like idiocy.</p>   |
| <p>II.</p> <p>Acquired sexual perversion.</p>                         | <p>{</p> | <p>a. Sexual perversion from pregnancy, the menopause, ovarian disease, hysteria, etc.</p> <p>b. Sexual perversion from acquired cerebral disease, with or without recognized insanity.</p> <p>c. Sexual perversion (?) from vice.</p> <p>d. Sexual perversion from over-stimulation of the nerves of sexual sensibility and the receptive sexual centers, incidental to sexual excesses and masturbation.</p> |

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\* ALIENIST AND NEUROLOGIST, 1884.

While this classification has many advantages it is subject to the criticism of being too diffuse, and somewhat justly, since Lydston's classes are in many instances psychologically the same or have the same origin, and for these reasons I prefer a classification I published some years ago:\*

First: Those which originate in imperative conceptions. Second: Those due to congenital defect. Third: Those which are incident to insanity, periods of involution, or to neurotic states. Finally, those which result from vice. These last arise from the fact that nerves too frequently irritated by a given stimulus require a new stimulus to rouse them.

This comprehends all possible varieties. Dr. Spitzka† a decade ago, in commenting on Dr. Clevenger's paper,‡ said:

There are some observations made by alienists which strongly tend to confirm Dr. Clevenger's theory. Under pathological circumstances, relations, obliterated in higher development and absent in health, return and simulate conditions found in lower and even in primitive forms. An instance of this is the pica or morbid appetite of pregnant women and hysterical girls for chalk, slate-pencils and other articles of an earthy nature. To some extent this has been claimed to constitute a sort of reversion to the oviparous ancestry, which, like the birds of our day, sought the calcereous material required for the shell structure in their food. In forms of mental perversion properly classed under the degenerative mental states a close relation between the hunger appetite and sexual appetite becomes manifest. Under the heading "*Wollust, Mordlust, Anthropophagie.*" Kraft-Ebing describes a sexual perversion where the sufferer fails to find gratification unless he or she can bite, eat, murder or mutilate the mate. He refers to the old Hindoo myth: Civa and Durga, as showing that such observations in the sexual sphere were not unknown to the ancient races. Instances occurred where, after the act, the ravisher butchered his victim, and would have eaten a piece of the viscera; another where the criminal drank the blood and ate the heart; still another where certain parts of the body were cooked and eaten.

This includes all my types except the last, which is thus mentioned in a late paper§ by Spitzka:

Unlimited indulgence and absence of responsibility are competent to make sexual monsters out of mere voluptuaries.

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\* *Detroit Lancet*, 1884.

† *Detroit Lancet*, 1884.

‡ *Science*, 1881.

§ *Jour. of Nerv. and Ment. Dis.*, 1888.

Connecting links between the hermaphroditic type, the imperative conception and the sexual pervert type occur. Raggi† reports the following case :

CASE III.—A paranoiac had a delusion of being a female, based on his large breasts.

Cases of perversion were casually recognized by Caspar, but not until a series of works had been published under a pseudonym by an old Hanoverian lawyer, Ulrichs, himself a victim of the condition, did the matter become the subject of systematic study on the part of alienists. Ulrichs stated that there were a class of men who, as a result of their inborn nature, were attracted by sexual desire to males exclusively ; their feeling toward females being that of indifference or repugnance. These beings Ulrich called "Urnings," and according to him they were the sport of nature ; their bodily structure being that of a man ; their sexual instincts those of a woman ; this, in Ulrichs' opinion, was due to the fact that a woman's soul was included in a man's body. He asserted that at least one man in five hundred was an "Urning," and was of opinion that every "Urning" could recognize a fellow-sufferer. It is exceedingly probable that, strictly speaking, these figures are exaggerated, as Ulrichs believed that the condition was only found in males, whereas it occurs nearly as frequently in females. Ulrichs pointed out that the condition occurs among the coleoptera normally, and, hence, should be regarded as an atavism. Krafft-Ebing, evidently impressed by this view, says :

In former years I considered sexual perversion as a result of neuro-psychical degeneration, and I believe this view is warranted by more recent investigations. As we study into the abnormal and diseased conditions from which this malady results, the ideas of horror and criminality connected with it disappear, and there arises in our minds the sense of duty to investigate what at first sight seems so repulsive, and to distinguish, it may be, between perversion of instincts, which is the result of disease, and the criminal offenses of a perverted mind against the laws of morality and social decency. By so doing the investigations of science will become the means of rescuing the honor and re-establishing the social position of many an unfortunate whom

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† *Annali Univ. di Med. di Chir.*, 1882.

unthinking prejudice and ignorance would class among depraved criminals. It would not be the first time that science has rendered a service to justice and to society by teaching that what seem to be immoral conditions and actions are but the results of disease.

Westphal\* later reported a very illustrative case :

CASE IV.—A thirty-five-year-old woman, whose father committed suicide, had been a housekeeper in a boarding-school for girls. She learned with difficulty in school. She had a cleft palate. As a child she had been fond of boys' games and male attire. From her eighth year on she had felt drawn to certain girls. She liked to express her love for them, kissed them, and induced them to let her touch their genitals, which from her eighteenth to twenty-fifth year she had frequent chances to do. When such chances did not occur she masturbated, particularly just before and just after menstruation, picturing to herself the loved girl. She had tried to abandon this habit, but when she attempted to control herself she experienced a disagreeable odor and taste coming upwards from her genital organs. This perverse tendency was exceedingly obnoxious to her, and she desired to be freed from it. In her voluptuous dreams she appeared to herself to be a man. Physically there was no variation from the feminine type. The patient had latterly been depressed and apathetic; then unsociable and violent, using obscene language. These attacks were of regular occurrence. Before she came under Westphal's observation she had been exceedingly depressed, and confessed to her sister her love for a girl. As she finally manifested violence she was sent to Westphal. Men were repugnant to her. During two months' residence in the hospital she manifested no delusions or hallucinations, but weakness of judgment was evident. She contracted an affection for a weak-minded patient in the hospital. Five years after the patient had no more relations with girls. She still masturbated, exciting her imagination, as before, by picturing female forms. She had attacks of excitement just before menstruation, and periods of depression just after. In these last she suffered from imperative conceptions, which are far from infrequent in these cases. Olfactory hallucinations frequently co-exist with sexual manifestation, hence their appearance in this case. That they are really an atavism will appear obvious when the relation between sexual excitement and olfaction in the lower animals is remembered.

Lydston† reports a similar case of a somewhat mixed type :

CASE V.—That of a woman of perfect physique, not a professional prostitute, but moves in good society, who has a fondness for women, being never attracted to men for the purpose of ordinary sexual indulgence, but for perverted methods.

Krafft-Ebing‡ also reports a mixed case :

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\* "Arch. f. Psych.," B. I.

† *Western Medical Reporter*, 1889.

‡ "Psycho-pathia Sexualis."



CASE VI.—Was that of the daughter of a dipsomaniac physician, who, escaping from her father's house, entered a low resort, where she entered into an intimacy of this kind with a public woman. Taken to a house of correction, she again escaped, and fled with her female friend to another low resort in a foreign country.

A case coming under my own care,\* was as follows:

CASE VII.—Was that of a twenty-two-year-old girl who had a neurotic ancestry on the paternal side. Her face and cranium were symmetrical. The patient had always liked to play boys' games and to dress in male attire. She felt herself at certain times sexually attracted by some female friends with whom she indulged in mutual masturbation. These feelings came at regular periods, and were then powerfully excited by the sight of the female genitals. The patient in the interval manifested only repugnance to attentions from men. She had been struck with the fact that while her lascivious dreams and thoughts are excited by females, those of females with whom she has conversed, are excited by males. She, therefore, regarded these feelings as morbid. At times she had imperative conceptions, such as that if she turned her head around she would break her neck. To avoid this ideal danger she at times carried her head in a very constrained position. This patient was treated as if afflicted by nymphomania, and was thus enabled to keep herself under control.

One social phase of the question has been illustrated by the cases reported by Dr. P. A. Wise,† of the Willard (N. Y.) Insane Hospital:

CASES VIII. AND IX.—The mother of one had a neurotic ancestry, but was brought up in refinement. She fell in love with a farmer and married him against her parents' wishes. The match proved unfortunate. He was prudent, did not give his wife the comforts of life to which she had been accustomed. She finally became demonstrably insane, deserted her home and was found one morning behind a pile of wood clasping to her bosom a new-born babe. The child was taken care of by friends until the mother died, and grew up a beautiful girl, but when about seventeen years old exhibited an errabund tendency. She displayed a great liking for boyish games and attire, but a repugnance to suitors. She was persuaded into a marriage with a man to whom she became so repugnant that he deserted her, whereupon she sought refuge in a Pennsylvania almshouse, where she met the second case who came under Dr. Wise's immediate observation. This last woman had an insane ancestry on the maternal side. She preferred muscular sports and labor. She was averse to the attentions of young men and preferred the society of her own sex. She was forced into a marriage with a man to whom she bore a female child, but who deserted her, relations with her husband being distasteful. On being abandoned

\* *Detroit Lancet*, 1884.

† *ALIENIST AND NEUROLOGIST*, 1883.



by her husband she went West, assumed masculine attire, became a hunter, and spent several years among the Indians. On her return she published a very quaint description of her hunting life. Becoming reduced in circumstances she sought refuge in the almshouse with the first patient, who became strongly attached to her, and the attachment proving mutual the two took up their abode in the woods as husband and wife. The second patient assumed the name of "Joe," and provided for the two by hunting and trapping. In 1876 the two returned, the wife introducing her "husband" to her uncle. She was kindly received, and her husband was hired to work about the place. One day "Joe" was found to be a woman in disguise, whereupon the uncle was so indignant that he caused "Joe's" arrest. She was imprisoned for four months, during which time the "wife" visited her and carried delicacies to her. At length the neighbors prevailed upon the uncle to have the young woman released. When she came out of prison she lived with her "wife" again. At that time the estate of the "wife's" mother was settled, and real estate valued at several thousand dollars became hers. This property she has not claimed, but still leads her old curious life. Her "husband" died in the Willard Hospital for the Insane. She is about forty-six years old, while her "husband" was a few years her senior. The "husband" was admitted to the Willard Hospital for the Insane in consequence of a maniacal attack. After admission "Joe" tried to have sexual intercourse with her associate. "Joe" said that with her husband she had never had anything but repugnant sexual relations, but with her "wife" sexual satisfaction was complete. She had an enlarged clitoris, covered with a large relaxed prepuce. She had periodical attacks of sexual furor.

Blumer\* reports a case in which psychological phenomena were manifest, closely resembling those of hysterics:

CASE X.—The patient, a male, loved a man in the purest manner possible. To gain the affection of the loved object he wrote poetry rather above the average of that poured out by enamored youths. His poetry was so pervaded by the dreamy sentimentality of the Platonic philosophic views of the relations of the sex, as naturally to create a suspicion that this philosophy might have the same origin. The pervert used endearing names and wrote pseudonymous letters to his "beloved," scurrilously attacking himself, as a means of drawing attention to his affection.

Sodomy, often but simple vice, sometimes results from an imperative conception or from this arising from a vice, or from both conjoined with congenital defect. This last was the case with the amours of the suicide paranoiac Ludwig of Bavaria, and Wagner of "Tannhauser" fame.

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\* *Amer. Jour. of Insanity*, 1883-84.

The letters of the great composer to the King demonstrate this. One such case came under my own observation:\*

CASE XI.—An insane Bohemian girl, admitted to the Cook County Insane Hospital without a history. She had a virginal vagina and hymen, and a funnel-shaped anus. Subsequently her lover came under my care. He admitted she was very lascivious, but feared pregnancy, and had permitted coitus only by the rectum. As a result both became incapable of coitus except when performed in this manner. The erotism of the girl finally resulted in an attack of mania-like sexual furor from which she died. This flung her lover into a depression from which he recovered under treatment, and finally made a happy marriage.

Sexual perversions may furthermore reappear in certain races under the influence of old tribal customs. Pæderasty, according to the oath of Hippocrates, was no more of a crime in Greece than ordinary lasciviousness. The boy loves of the Greeks were common features. Socrates and Plato indulged in this love. Pæderasty, as with the Pueblo Indians,† often had a religious phase. Campbell‡ points out that both prostitutes and sodomites were religious attachments even to the Hebrew temple. There were consecrated prostitutes (Kadesh) and consecrated sodomites (Kadeshuth), whose receipts formed part of the temple income, while the hire of the promiscuous prostitute (Zanah) and promiscuous sodomite (Celeb) could not be accepted by the temple. The influence of such customs was shown in the relative frequency of pæderasty in France (Marseilles) and Italy (Calabria), where colonies had early been established by the Greeks. In tribes where pæderastic ceremonies were part of the religious exercises there would be no popular aversion to pæderasty. Indeed Schopenhauer views pæderastic performances by old men as an illustration of the beneficence of nature in preventing the propagation of defective beings. Moreau de Tours§ has also called attention to this phase of the subject. All these manifestations may appear as phenomena of periodical insanity, as substitutes for epilep-

\* *Medical Standard*, December, 1888.

† *Amer. Jour. of Neur. and Psych.*, 1882.

‡ "Phallic Worship."

§ *ALIENIST AND NEUROLOGIST*, 1884.

tic attacks in paretic dementia, at the onset of puberty and senility in man, and of puberty, pregnancy, senility and the menopause in woman. Furthermore, they are frequently produced on the neurotic soil of the male and female masturbator. The female masturbator of this type usually becomes excessively prudish, despises and hates the opposite sex, and frequently forms a furious attachment for another woman, to whom she unselfishly devotes herself. The same phenomenon may be observed in male masturbators. These latter, however, reach insane hospitals early, as their gaucheries are demonstrable. The female masturbator has not escaped the keen eye of Balzac, who depicts her in his "*La Fille aux Yeux d'Or*." Brouardel, as will appear later, has reported an excellent case of the periodical insanity type. The unstable emotional balance of the periods of evolution, and involution like puberty, pregnancy, the climacteric and senility, explains the sexual perversions of these periods.

That these abnormal sexual phenomena may originate in imperative conceptions, is readily demonstrable. A woman in the sexo-emotional condition produced by pregnancy manifests aberrant "longings." Pregnant women have insisted on sexual intercourse with a husband, and have then killed and eaten him. Recently delivered dogs and tigers often devour their offspring. In the male similar phenomena occur at the sexual orgasm when great emotional exaltation exists, and the will is in abeyance in consequence. A man may be then seized by an imperative conception differing in character from the voluptuous. Seeing a woman's shoe, he is unable thereafter to experience sexual emotions without this conception. Ridiculous as this may seem, more than one victim of this imperative conception has been tried for theft therefrom resulting. Lawson\* has reported such an adjudicated case :

CASE XII.—Sprague, the accused, was arrested immediately after having assaulted a young lady by throwing her down violently, removing

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\* "Insanity as a Defense for Crime."

one of her shoes and running away with it. He made no attempt to steal anything else, although she had on valuable jewelry. When the trial came on, insanity was alleged as a defense. Numerous witnesses, the principal of whom was the father of the defendant, a clergyman of the highest respectability, testified to the erratic conduct of the prisoner. A family history was elicited which bore most pertinently upon Sprague's case. His grandfather, grandmother, great grand-uncle, three great-aunts and a cousin having been insane. He had himself in his youth received numerous blows and falls upon the head, and within a year from the last head injury he had developed severe headaches, associated with which his friends noticed a bulging of the eyes. About this time the prisoner developed a fondness for stealing and hiding the shoes of females about the house, and it was found necessary by his relatives and the female domestics to carefully conceal or lock up their shoes to prevent his abstracting them. Upon investigation it was discovered that the act of stealing or handling the shoes produced in him sexual gratification.

Charcot\* reports a similar case:

CASE XIII.—A thirty-four-year-old man, of neurotic stock, was arrested for publicly masturbating in front of a shoe shop. Early in infancy convulsions had occurred, and the patient was sexually and otherwise precocious. At the age of six, while masturbating (a habit due to phymotic preputial adhesions), he saw a woman's shoe-sole with its nail. Ever after the sight of these nails produced pleasure. Two young girls' shoes were obtained, and over these he masturbated, constructing fantastically voluptuous mental images thereanent. While at boarding-school he saw no women. During vacation two female cousins visited his home; one of whom, noticing his intent gaze on her shoes, took particular care to press her foot on his. When he felt the nails he had an emission. His attempts to control his conception succeeded for a time, but eventuated in the act for which he was arrested and sent to an insane hospital.

W. H. Hammond† has reported a similar case into which another factor also enters:

CASE XIV.—A twenty-four-year-old man, of neurotic ancestry, had, when seven years old, been taught to masturbate by a servant who tried coitus with him. Once she practiced friction on his penis without taking off her shoe, which was the only time he experienced any pleasure from her performances. The mere idea of a shoe caused sexual excitement. His school mistress' shoes were next the center of his attraction. He was severely punished several times for kneeling down and seizing her foot, and was at length transferred to a school taught by a man. He married, but found himself impotent except when he thought of his wife's shoe.

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\* "Arch. de Neur," 1882.

† "Impotence "

A similar case in Vienna was as follows :

CASE XV.—A young man was arrested for stealing napkins. He had six hundred of these in his house, stolen from working girls, and covered with sperm. He only used these to masturbate, by constructing fantastic ideas around them.

Dr. Tarnier\* reports the following adjudicated case :

CASE XVI.—A man was arrested in Paris for having stolen from a dry-goods store a "dummy," dressed in a long white apron. The Court struck with the strangeness of the circumstance, directed that a medical examination be made, which resulted as follows : Father a drunkard ; paternal uncle an inmate of an asylum ; brother weak-minded and subject to delirious attacks ; mother and sister nervous and melancholic. He has a bad conformation of cranium and unbalanced mental faculties. Since the age of fifteen, following an attack of typhoid fever, the sight of a white apron, worn by either sex, excites sexually to such a degree that, whenever possible, he seizes upon the garment and soils it with his sperm. He has been several times arrested for stealing white aprons. In order that he might escape the domination of this impulse and see no more of these garments, he embarked as a sailor. Every time that he went ashore the trouble reappeared. Tired at last with these impulses, which were stronger than his power of resistance, he entered a Trappist Monastery. There, to "conquer the flesh," he entered upon a series of privations and "mortifications" of the most rigorous character. They helped him for a time, but at the end of three years he was seized with an inexplicable melancholy. He returned to Paris, resumed the stealing of aprons, placed them in bed, and gave himself up to masturbation.

Charcot has reported a case in which the patient at the time of the orgasm saw an old woman's head incased in a cap. This mental image must thereafter be present at every coitus or the man was impotent. Sometimes the imperative conception involves the person with whom, and the conditions under which coitus is first performed. Magnan cites a case in which a young brunette seduced a boy. To avoid detection she had intercourse with him only when dressed in wide hoopskirts, street costume and corkscrew curls. When grown up, the young man was impotent except with brunettes so dressed. I had under care a very similar case :

CASE XVII.—One of my patients who had a similar conception regarding a former mistress, found himself impotent with his recently married wife, a refined lady, who desired motherhood. He confessed

\* *Bull. gen. de Therap.*, Nov. 30, 1887.



the cause of his impotence to his wife, and both consulted physicians, most of whom advised a renewal of the old relationships with his mistress. He and his wife, who had agreed to leave the matter to my judgment, consulted me about his case. I advised against renewal of the old relationship, and forbade its discussion. His wife was instructed to be coy and prudish, and to have a night costume similar to the mistress. All sexual intercourse with her was forbidden to the husband, whose general health was meanwhile improved by tonics and exercise. As was anticipated, he soon broke through the prohibition, and from being on the verge of suicide, regained his health.

Dr. A. R. Reynolds, of Chicago, has reported a case in which a man who had entertained an affection for a woman whose right leg had been amputated high up, became impotent except with women who had undergone similar mutilation.

A more bizarre type of the imperative conception is that which associates an orgasm with death and the trappings of woe. Brouardel\* cites the following case:

CASE XVIII.—The patient is a well known physician who is an extremely good, generous individual. He has never seen women, never indulged in pæderasty, despite violent temptations to do so, but the paraphernalia of mourning—a passing funeral, even—excites his genesic sensations to such a degree that he has found it impossible to attend even the burial services of his relatives.

This association seems at once to land us in what Ribot calls the "realm of caprice," yet the psychological law governing it is simple. Grief destroys the emotional balance, and unless the grief itself be sufficiently inhibitory, the primitive instincts spring to the surface, and find expression in funeral feasts and orgies, or in an association of the kind just cited. Independently of this, the abulia resultant on grief left the mind peculiarly open to imperative conceptions from accidental causes. How far this association may extend is shown by necrophilism, and by the fact stated by Brouardel, that he had been obliged to establish surveillance at the Paris Morgue, because several individuals were in the habit of coming to masturbate in the presence of the dead bodies. The same influence appears in a case reported by Taxtil:†

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\* *Gaz des Hop.*, 1887.

† "La Prostitution Contemporaine."



CASE XIX.—A prominent clergyman has a prostitute chalked to resemble a corpse, placed in a catafalque in a room hung with black. He then recites the offices of the dead, and, at a certain point, copulates.

From this imperative conception to necrophilism, or the propensity to violate dead bodies is but a step. The French sergeant Bertrand, and Bleau, who broke into churchyards under great risks, and dug up female bodies to violate and mutilate, are instances in point. Under the title of vampirism, this propensity was known to the populace from the middle ages down to the early nineteenth century. This popular belief found expression in the characters of romances like "The Mysteries of the Court of London," "Vaney, the Vampire," etc.

This imperative conception\* was evident in the morbid delight in funeral ceremonies and death shown by all the descendants of the mad Juanna, of Castile, who sat on the thrones of France and Spain down to Louis XV. Juanna sat year after year by the ghastly remains of her husband, attired in his wonted rich apparel and jewels. Her son Charles delighted in celebrating his own obsequies, in putting on his shroud, placing himself in his coffin, covering himself with the pall and lying as dead until the requiem had been sung. Philip II. had a similar taste. Philip IV. hankered after burials, burial places, and lay stretched out as a corpse at full length in his future tomb. There are other equally well authenticated, but much more disgusting imperative conceptions of this type. Brouardel† describes the *stercoraires*, who experience an erection when a woman enters a toilet-room in their presence. Evidently the female sexual organs were first seen during defecation, and under the psychological law, already outlined, a sexual orgasm could only be experienced under such conditions.

Sometimes the imperative conception produces bestiality. Caligula,‡ who made his horse a consul, suffered from this type, complicated by congenital defect. Bestiality is

\* "Macaulay's History of England," Vol. V., page 411.

† *Gaz. des Hopitaux*, 1887.

‡ *Medical Standard*, 1888.

from time to time found among neurotic females who evince an excessive fondness for dogs. Spitzka\* cites the case of a country lad who had a penchant for intercourse with ducks, geese and other animals. His enjoyment was heightened by their dying agony. Brouardel† reports the case of an Austrian civil engineer who had annual attacks of this kind, during which for a week he copulated with beasts. Religiosity had a manifestation even here. At Mendes, the great center of goat worship of Egypt, it was a religious rite for women to offer themselves sexually to the goat. This copulation, Herodotus says, the goat accepted and union took place publicly in the temple. Other rites of the kind are indicated by the fact that the vagina of a mummy of a lady of rank found at Thebes contained the penis of a bull.‡

In some modern orgies, rites of this kind are repeated with dogs. Dr. Hospital§ reports a case where copulation with dogs with a small penis took the place of epileptic attacks.

Montaigne's doctrine that "lust seeks stimulation in pain," strangely enough illustrates an atavism. The common snail ejects a limy dart (*spiculum amoris*) as a preliminary excitant to copulation, and the thorny excrescences on the reins of certain mammals indicate further the existence of the same phenomenon. An abnormal association of this type already has been pointed out by Krafft-Ebing. The fact, albeit not the explanation, was recognized by religious ascetics in the pleasure derived from the practice of flagellation. It is not surprising therefore that "religiosity," as Spurgeon calls it, should crop up as the eroto-religious phenomena (coming under this head) are apt to do during periods of religious excitement. Emotional exaltation, whether religious or not, destroys mental balance, and normal and abnormal manifestations of primitive instinct spring to the surface. Flag-

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\* *Jour. of Nerv. and Ment. Dis.*, 1888.

† *Gaz. des Hop.*, 1888.

‡ Campbell, "Phallic Worship."

§ *Annales Medico-psych.*, Jan.-Feb., 1891.

ellation appeared in epidemic form during the fourteenth and fifteenth centuries, but the sexual element became so demonstrably obvious that the Church, at first favorable, took severe measures against the epidemic. Magdalena of Pazzi, a Florentine Carmelite nun, in the sixteenth century, obtained by her flagellations and their results a large following. It was her greatest joy when the prioress had her hands tied behind her back and had her whipped on her bare loins in presence of all the Sisters, when she would, in a wild erethism, cry:

It is enough! In flame not more strongly this flame which devours me. Not this manner of death is it that I desire. It is associated with too many delights and blessings.

Rousseau, in his "Confessions," is equally enthusiastic on the subject of flagellation. Flagellation as a means of excitation of the sexual passion was well known to the ancients. Petronius\* describes a switch of green nettles used for this purpose. In the advertisements of the Chicago "massage shops" appears often the statement, "Flagellation a specialty." Flagellation however was comparatively painless and involved the factor of local hyperæmia.

Sedillot† calls attention to the fact that mutilation has been used during coitus to intensify sexual pleasure. Demarquay‡ has reported the case of a masturbator who pierced his scrotum in order to stimulate his fading sexual pleasure. A most extraordinary case is reported by Chopart:

CASE XX.—A man began masturbation from the age of fifteen, and masturbated eight times a day. The ejaculation of semen at length became so rare and difficult that he tired himself an hour before obtaining it. He used his hand merely in masturbation until the age of twenty-six, when manipulation only brought about priapism, whereupon he began titilating the urethra with a rough piece of wood. At length the urethral canal became hard, callous and absolutely insensible. The patient had an insuperable objection to women, and enforced abstinence having produced continual erections, he became desperate and drew a

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\* "Satyricon "

† "Contributions a la Chirurgie."

‡ Poulet's "Foreign Bodies."

dull knife through the glans along the urethral canal. This incision, which would have usually caused intense pain, produced in him an agreeable sensation, followed by an ejaculation. He repeated this until he had divided, after a thousand trials, the penis into two halves. The corpus cavernosa, although divided often, was capable of erection, and diverged to the right and left. As the section of the penis extended to the pubis, the knife could not be used further. A piece of wood was then tried for ten years, which finally slipped into the bladder, and required perineal section, which resulted in septicæmia and death.

The same tendency appears in females. Paulet cites the case of a married mother of three children, who was not gratified by coitus, but practiced masturbation with a rough, blunt piece of wood tied to a wire. This slipped into her bladder, whereupon the whole story was disclosed. The following case of mine has already been cited in another connection before the Academy:\*

CASE XXIV.—The patient has "strong spells of secret love," when she smashes windows to feel "happy" from seeing the "blood run" from her cut fingers. These are evidently erotic attacks. She uses obscene language if she cannot smash glass and see the blood run.

Another case which came under my care was as follows:

CASE XXV.—The patient would hack herself all over with any sharp instrument she could lay her hands on—not for suicidal purpose. She experienced a fascinating pleasure whenever she drew blood.

This tendency underlies the erotic female desire for needless surgical operations. A case reported by Dr. Cox,† of Colorado, is as follows:

CASE XXVI.—A reputable father of a family is at stated periods a visitant of disreputable houses. He never cohabits with lewd women nor utters an immodest word, but in his own peculiar way he is a liberal patron of houses of prostitution. Here, early in the morning, he selects two or three of the largest prostitutes and repairs to a private room, where he divests himself of all his clothing *above* the waist. He then makes the girls trample over his naked chest, neck and face, taking care at each step to grind his flesh with the heels of their boots. This goes on for several hours.

J. G. Frank Lydston has reported the following case:

CASE XXVII.—A man experiences singularly voluptuous sensations by having a vile wretch administer violent kicks on his gluteal region.

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\* ALIENIST AND NEUROLOGIST, January, 1891.

† ALIENIST AND NEUROLOGIST, 1883.

A case which forms a connecting link between this type and another later described is the following, anent which I was consulted by an Iowa physician :

CASE XXVIII.—The patient is a seventy-year-old man, who has never felt strong sexual attraction to females, albeit their society is agreeable. Strong men or boys excite him when the idea of corporeal punishment inflicted on their nates occurs to him. At the age of six he felt a peculiar pleasure in throwing little girls down and spanking their nates. He slept with an older boy who, at the age of ten taught him to masturbate. The two practiced it morning and night, exciting themselves with lascivious stories. His companion delighted in the narration of intrigues, and he in having the intriguer caught and whipped on the nates. At the age of sixteen he became aware of the evil effects of masturbation, but repeated attempts to quit resulted in severe balanitis after a week. He married young, and found satisfaction in coitus, but this was greatly augmented if he thought of nude, well-developed men or boys being whipped. A naked boy or man excites him sexually more than a woman. He is not a pæderast, but thinks he might have become one had opportunity served. He had been dissuaded from flagellation, which he believed might have been pleasurable.

Dr. C. K. Mills\* describes a sexual pervert who delighted in inflicting pain on himself.

Pain in others would naturally soon create a similar association in the sexual pleasures of congenital "perverts" or exhausted debauchees. Fielding, evidently drawing on his experience as a police magistrate, depicts a character "as well knowing that there are certain dispositions so brutal that cruelty adds great savor to their pleasures." Stead's *exposés* in his *Pall Mall Gazette*, speaks of men to "whom the shriek of torture of the violated virgin is the essence of delight."

This morbid sexual association of pain and the hunger origin of sexual passion naturally caused "blood-thirst" and other allied aberrant manifestations to appear in these reversions. "Blood-thirst" was shown by the "madschen-schander" of Leipzig† and his Alsatian, Parisian and American imitators, who had a seminal ejaculation when they stabbed women in the arm with a lancet. These phenomena appear not only in the congenital or diseased

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\* *Jour. of Nerv. and Ment. Dis.*, 1886

† Wharton, "Mental Unsoundness."



types, but also in the vice. Tarnowsky\* reports the case of a Russian physician who, sober, was sexually normal, but drunk, could only obtain sexual gratification and an emission when blood flowed from the buttocks of his paramour. The case of the Marquis de Sade† illustrates the same point:

CASE XXIX.—The Marquis was the son of a distinguished *litterateur*. He had been expelled from his regiment for outrageous immorality and sentenced to death for sodomy and attempted murder. He returned to France and entered upon performances like the following:

In 1777 groans were heard in a remote apartment in a deserted house. The doors were forced and a nude female was found tied down on a table, faint and pale from loss of blood. There were two wounds on each elbow and the corresponding sides of the vulva. She had been invited by the marquis to sup with him. After supper she permitted herself to be tied down to the table and was assured but a little blood would be drawn. When the blood flowed freely the Marquis threw himself upon her. She became alarmed and cried out. The Marquis was arrested, sent to the Bastille and from thence transferred as a lunatic to Charenton, whence he escaped in 1790. He was recaptured during the reign of Napoleon I., who ordered his return to Charenton. An attempt to issue a collected revised edition of his lascivious books led to his arrest.

The Marquis probably had more than one prototype among the French aristocracy, since it is an open question whether he much exceeded outrages on serfs legally permitted to nobles. A French law, fallen, it is true, into desuetude, but first formally abolished at the outbreak of the French Revolution,‡ permitted a seigneur on his return from hunting to kill not more than two serfs and refresh his feet in their blood and bowels. Chevalier§ has resurrected a letter of a seigneur who availed himself to the fullest extent of these privileges—the infamous Gilles de Retz, as Carlyle calls him, who had been a companion-in-arms of Joan of Arc:

CASE XXX.—Gilles de Laval, Chevalier de Retz, was the original "Bluebeard." After the tragic death of La Pucelle he retired to his castle of Machecoul, in Brittany, and there gave himself up to the excesses and cruelties that have made his name infamous for all time.

\* "Die Krankhaften Erscheinungen des Geschlechtsinnes."

† *Jour. of Nerv. and Ment. Dis.*, 1888.

‡ Carlyle's "French Revolution," page 13.

§ ALIENIST AND NEUROLOGIST, 1886.



He did not, however, as told in the story, marry inquisitive maidens and murder them for gratifying their curiosity, but he murdered over eight hundred children in the gratification of his horrible passion. He was finally brought before the Court of Brittany, tried, found guilty, and condemned to be burned at the stake. He appealed to the King for a commutation of sentence, after the following fashion: "I do not know how, but of my own self, without counsel of any one, I concluded to act thus (as detailed in the trial), solely for the pleasure and luxury it afforded me. In fact I found incomparable delight in murder, doubtless by the instigation of the devil. It is eight years now since this diabolical idea came to me. One day, being by chance in the library of the castle, I found a Latin book describing the lives and customs of the Cæsars of Rome. It was written by a learned historian by the name of Suetonius. The said book was adorned with pictures very well painted which showed how these Pagan emperors lived; and I read in this beautiful history how Tiberius, Caracalla\* and other Cæsars slaughtered children and took pleasure in torturing them. Upon this I determined to imitate the dead Cæsars, and on that very evening I commenced to follow up in earnest and carry out the text and the pictures of the book." After reciting how two of his retainers, Henriët and Pontou by name, were instructed as to his desires, and became the purveyors of victims for his orgies, he says: "I abused these children for the ardor and delectation of luxury which their sufferings caused me. Afterwards I caused them to be slain by these fellows. Sometimes I made them cut the throats of the children, severing the heads from the bodies. Sometimes I crushed their skulls by blows of a heavy stick. Sometimes I removed their limbs; removed their entrails, hung them on iron hooks to cause them to languish, and while they were languishing to death, I had connection with them. Sometimes I did the same after they were dead. Oh, I had great pleasure in seeing the most beautiful heads of these children after they were bloodied. As to those slain, their bodies were burned in my chamber, except some very beautiful heads which I kept for relics. I do not know how many were thus killed, except that the number was more than one hundred and twenty each year. I have often lamented that I left your service, most venerated Sire, when I did so, some six years ago; because if I had not done so I would not have come to this; but I must confess that I was led to retire to my estate by a certain furious passion and desire which I felt toward your son, the Dauphin of France, such that I would not have failed to have slain him some day, as I have since slain so many innocent children, by the secret temptation of the devil. I conjure you, Sire, not to abandon me, your humble servant, your Chamberlain, your Marshal of France. Spare me, and let me expiate my crimes by retiring to a monastery." He and his accomplices were burnt alive. Louis XI. did not believe very strongly in pleas of this kind where nobles with forfeitable property were involved.

Search among the "noble" frequenters of the Cleveland

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\* Evidently Caligula is meant.

Street (London) den would probably result in "Jack the Ripper's" capture. "Blood-thirst" is linked with the reversion to cannibalism which results from congenital or acquired sexual perversion. This cannibalistic phase of sexual perversion, as shown by the myth of Saturn devouring his children, and the Hindoo myth of Civa and Durga, entered into some religions. During some bacchanalian mysteries the sacred animals who copulated with the female worshippers were served up to them in a feast, and these bacchantes often tore the dogs with whom they sacrificed to Cybele, to pieces with their teeth, and devoured them. Nero\* dressed the emasculated Sporus as an empress, and while he committed active pæderasty with him indulged in passive pæderasty with his (Nero's) "husband," Doryphorus. He committed active pæderasty with Aulus Plautius, whom he then executed. He had men and women tied to stakes and dressing himself in wild beasts' skins, threw himself on them to bite off their genitals. Spitzka states† that the province of Westphalia was excited in 1882 over a score of murders performed in a most revolting manner, on young girls who had been previously violated, every indication pointing to the same person as the perpetrator. One instinctive butcher said, regarding one of his long series of victims:

I first opened her chest and divided the fleshy parts of her body with my knife. Then I dressed this person as a butcher dresses cattle, and chopped her body into pieces, so as to get them into a hole which I dug on the mountain. While opening the body I felt so ravenous that I trembled and cut out and ate a piece.

Others have torn out the heart and drunk the blood of their victims. Tirsch cut off the breasts and genitals of an old woman whom he had killed and violated, and cooked and devoured these.

Menesclou violated a girl of four, choked her and cut her body to pieces. Leger violated a twelve-year-old girl, mutilated the sexual organs, tore her heart out, ate

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\* Suetonius.

† *Medical Standard*, December, 1888.

it and drank her blood. Lepage, of Vermont, a French Canadian, murdered, violated and mutilated several women. The Whitechapel monstrosity invariably removes one kidney, the ovaries, uterus and labia. Pæderasts, as Spitzka has shown, are guilty of similar atrocities. Contrary sexual appetite not only mimics romantic love but also the cannibalistic manifestations of sexual protoplasmic hunger. One peculiar phase of this pain stimulation of sexual appetite occurs in the men\* who get their paramours drunk and thrust glasses, etc., up the vagina.

About a decade ago I pointed out that not a single abnormal sexual manifestation could be, by itself, regarded as evidence of insanity, and I most heartily agree with Spitzka, Krafft-Ebing and Tarnowsky, that the mere existence of anthropophagy, necrophilism or sexual perversion unaccompanied by other evidences of nervous and mental disease, is not sufficient proof of insanity. In regard to the ethical aspect of the subject, its evolution demonstrates a hope, timidly expressed by Tennyson :

O, yet we trust that somehow good  
Will be the final goal of ill—  
To pangs of nature, sins of will,  
Defects of doubt and taints of blood.

Between the cannibalistic sexual intercourse, the expression of protoplasmic hunger in the amœba, and the picture drawn by Finch and Maudsley, looms a seemingly impassable gap, yet evolution has, as demonstrated by these perversionary atavisms, bridged this gap, and from and by what would, *a priori*, seem the utmost expression of egotism, has developed a secondary "ego," which inhibits explosive manifestations of egotism, and hence is an efficient moral factor.

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\* *Medical Standard*, 1890.

## DISCUSSION.

DR. CLEVINGER said that his contribution, anent hunger and the sexual appetite, had dealt chiefly with the question of the primitive desire. Many atavisms appeared in connection with this subject. There were cases reported where men could not have an emission unless their paramours defecated in their faces. This he considered a reversion to the condition of the fish, where deposition of milt and of spawn were closely allied to defecation. He believed that there was little of the spinal element in pæderasty. It was mainly psychical.

DR. J. ZEISLER had felt somewhat perplexed at the view of Dr. Kiernan, that sexual perversion was not always an insanity. Under the teaching of Dr. Hoffman, the famous jurispudent, he had hitherto regarded it as a moral insanity. In regard to the "blood-thirst" question, he recalled a case in which a mysterious murder in Vienna, ascribed first to robbery, but finally cleared up by the confession of a sexual pervert who had admitted the strangulation during the voluptuous ecstasy of the orgasm.

DR. G. FRANK LYDSTON said, that as Windle had said the well-developed feminine type prevailed above the pelvis, while the rest was masculine. A photograph which he exhibited showed a womanly face, head and thorax, but a well-developed penis. One phase of the subject Dr. Kiernan had barely discussed—the desire of females for useless surgical procedures was preceded often by desire for male manipulation by physicians. The gynecologist is compelled to be on his guard against a not infrequent nymphomania, little suspected by those surrounding the patient, in which the woman develops fondness for gynecological manipulations. The subterfuges and devices of such patients to induce handling of the sexual organs on part of the physician are something remarkable. Perhaps the most frequent form of this is pretended retention of urine. Every disease which they may have heard of will be complained of by such patients in their insane endeavors to obtain manipulations at the hands of gynecologists. Frequent gynecological manipulations having exhausted the sexual response, the surgical procedures were needed to secure an orgasm. The romantic love "over-tones" to which Finck had referred, were to be detected in the correspondence of sexual perverts. A letter now in his possession displayed all these. He differed with Dr. Clevenger as to the nature of the orgasm in pæderasty. A slight analysis would demonstrate the spinal element in the case. Dr. Kiernan had not discussed the baccal manifestations of sexual perversion. Chancres were often evidence of these. He knew of a local gynecologist who invariably kissed the female genitals prior to an operation.

DR. KIERNAN, in closing the discussion, said that he disagreed with Dr. Clevenger as to the *stercoraires* resulting from an atavism. He thought the explanation given more in consonance with the facts. The claim that sexual perversion was always a moral insanity was not held by any leading authority. Hoffman justly predicated his opinion on the cases before him, but ignored racial and religious customs and the

influence of vice. Religious racial customs, even their phrases long survived. An illustration of this was found in the word still used for sexual intercourse in many parts of the United States, which was an abbreviation of Fregga, the name of the Anglo-Saxon goddess of love. That the genital center could be excited by the rectum, and that pæderasty therefore had a spinal element, there was abundant anatomophysiological evidences. Foreign bodies were frequently used to excite this center through the rectum. With regard to the social aspect of the question people would often tolerate the outward expression of the perversion when unattended by immoral performances. As Dr. Seguin\* had pointed out, a New York physician with a large practice, always wore feminine dress. Dr. Kiernan thought that the atavistic character of perversions were the best answer to the pessimistic views as to the sexual function—propagated by the Tolstoians. They proved the nobler element that the passion so decried had acquired through centuries of evolution, and demonstrated the validity of the views of Finck and Maudsley. With regard to the case cited by Dr. Zeisler, he would simply recall the words of Ovid: "*Mulieres in coitu nonnunquam cervicem maris mordunt.*"

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\* *Amer. Jour. of Neur. and Psych.*, 1882.



## On Some Forms of Vagus Neuroses.

By L. BREMER, M. D., St. Louis, Mo.

THE vagus nerve, besides being the most complex in its functions, is at the same time the most interesting and has, consequently, been more frequently the object of physiological and pathological experiments than any other nerve in the body. In spite, however, of the oft-repeated efforts by experimenters, to establish the various functions of its many divisions and branches, a great many of these functions are still only partially known, and contradiction and disharmony still prevail among investigators in regard to some of the most important points. It is, perhaps, due to this fact, and to the difficulty which necessarily surrounds all experiments on this nerve, owing to its intimate relation to all the vital processes, that its diseases, as ontological conceptions, have not received that attention from pathologists and clinicians which those of most of the other cranial nerves have. Perhaps this nosological defect is also in part due to the too general involvement of the nerve and its various branches in quite a number of neuroses, principally neurasthenia and hysteria, for the natural history of these affections is at the same time that of vagus disorders.

The kind of vagus disease which I am about to discuss is not, however, one that affects the vagus in all or the majority of its functions, but which is confined to the respiratory portion principally. In order to at once define this class of disorders, I shall briefly give the following history of a case in point:

M. M., a girl of 13, coming of neurotic stock (mother hysterical, father alcoholic), was healthy up to her tenth year. At this age she had the measles; left the bed without being well; went out into the cold, and soon after had a pain in the region of the stomach, which for



four years returned every day for a shorter or longer period, lasting from half an hour up to one and two hours, usually in the afternoon. At times she had several attacks a day.

After these periodical painful seizures had occurred for about four years, they stopped suddenly one day, and just as suddenly did she commence breathing very deeply, slowly and laboriously.

STATUS PRÆSENS.—When I examined the patient the number of respirations, which gave to the observer the impression of forced ones, was twelve, and even down to eight a minute. All the muscles of voluntary respiration, notably the scaleni and sternocleidomastoidei stand out very prominently during the inspiratory act; the chest is abnormally expanded; the shoulders are raised, and the back arched; the left shoulder is raised higher than the right; the head is inclined to the right—this has become an habitual position. All these peculiarities are still more pronounced on even slight physical exercise, or during excitement. It is impossible for her to run, or even walk briskly, and to ascend a flight of stairs is to her an extremely difficult task. When she lies down and keeps absolutely quiet these dyspnœic phenomena disappear to a great extent, and a deep inspiration takes place only every ten or fifteen minutes, while the others are more shallow and quicker.

On attempting to walk briskly or to lift a weight she has to yawn, and the dyspnœa becomes excessive. The pulse is between seventy and eighty, appetite good and the functions of the rest of the body generally in a normal condition.

This state of affairs has lasted about ten months. If an analysis of the case be attempted, the history furnishes the not unusual fact (in neuroses) of the substitution of one disorder for another; the epigastric pain (probably due to an irritation of the sensory branches of the vagus) gives way to attacks of dyspnœa. In the light of the anatomical and physiological relations of the stomach and

lung, which are both innervated by the vagus, this conversion of one affection into another would, perhaps, not look strange, and come readily within the scope of our understanding, though we are unable to explain it. We have to be satisfied, in lieu of an explanation, with the fact that there exist analogous alternations in clinical pathology.

Further, the sudden onset of dyspnœic respiration would on first thought suggest a focal lesion in the oblongata, *i. e.*, in or near the respiratory center. Respiratory troubles, as exhibited in our case, are most frequently observed in apoplectiform bulbar paralysis and in Duchenne's disease, both of which affections have their anatomical seat in the oblongata and pons.

Again, this kind of dyspnœa reminds the observer of certain cases of tabes, in which the vagi have undergone grave degeneration, and in which that type of respiratory disturbance has set in which is experimentally produced in the rabbit, *i. e.*, at regular intervals, and about eight or ten times in a minute, abnormally deep inspirations succeed each other; each one of them followed by an apnœic respiration pause.

Yet it is not probable that the nerve trunk is in any way affected in our case; there are no clinico-pathological data authorizing us to assume its lesion in the peripheral terminations in the lung tissue; it is much more probable that the nucleus of the vagus in the medulla oblongata is the seat of the lesion. It has been experimentally established that this conglomerate of ganglionic cells is in closest functional relation with the respiratory center of the respective side, although just where that center is situated is not as yet positively ascertained. This center, as is well known, is an automatic, a self-adjusting one, for, after all the *afferent* nerves, by which exciting impulses might be conducted to it, have been cut, it still continues to discharge its functions, stimulating the *efferent* nerves of certain sets of respiratory muscle-areas, so that its functional activity must depend

on the excitation brought about by the state of the blood contained in the capillaries traversing and surrounding the center alluded to. In fact, it has been satisfactorily demonstrated that it is the variations in the amounts of O and CO<sup>2</sup> in the blood, which is the ultimate cause of the rythmical action of the center of respiration, and that the peripheral efferent branches of the pneumogastrics play only a subordinate part in the process.

It is, therefore, in the highest degree probable that in the case described, we have to deal either with an abnormal condition of the blood, a defective manner of its distribution to the automatic center, or with an inherent, possibly inhibitory disturbance of the functions of the ganglionic cells composing the center. It is to my mind impossible to tell, with apodeictic precision, which of these conditions prevails in the case under discussion. But it seems to me that the theory of a temporary spasm of the oblongata vessels supplying the center, is plausible enough to be adopted. The whole clinical picture, especially the inability to undergo even slight physical exertion without the respiratory abnormality becoming accentuated, and the excessive yawning denotes oxygen hunger of the whole organism, brought about by the inadequate activity of the center of respiration, the respiratory surface of the lungs being intact. Therapeutically, strychnine proved of benefit. This was given on the strength of an experiment which by various physiologists has been made with great uniformity of results.

If in a dog, *e. g.*, the medulla oblongata, and with it the respiratory center, be severed from the spinal cord, respiration will still go on, though with diminished frequency; from fourteen to eighteen a minute, there are only four inspirations which are, however, very deep. This shows that besides the chief center in the oblongata, there are subsidiary centers in the cervical portion of the spinal cord. If now strychnine be administered to the animal, the respiratory movements become quicker and more effective. By the administration of strychnine, then,

the reliable and powerful spinal excitant, I hoped to influence the respiratory process even independently of the oblongata center. The result seemed for a time to prove the correctness of this physiological reasoning, but after the improvement had lasted a few weeks, the remedy seemed to have exhausted its virtue. I now tried the fluid extract of quebracho in small doses (six to eight minims), under which the breathing improved steadily. In the course of several months she breathed normally.

Quebracho is accounted among the paralyzants of the centers of respiration. This, I take it, is probably true only of toxic doses. My clinical experience with the drug leads me to believe that in small doses its action on the respiratory center is not only an exciting but an invigorating one.

Another case which was under my care for a number of months presents some features to some extent explanatory and corroborative of the foregoing statements.

E. F., 36 years old, married, comes of a healthy mother, but his father was a drunkard. He was from his childhood up of a retiring, often of despondent disposition; was always a coward, easily scared; could not run or play like other boys, and used to blush excessively on the slightest provocation. From slight emotions he would get out of breath. He never drank or smoked, not even moderately, because of the disastrous effects produced by either alcohol or tobacco on his nervous system. For years he has been troubled with a pain which he qualifies as of a crawling character, in the epigastrium. This pain is attended with more or less difficulty of breathing. Sometimes this crawling sensation rises up to his throat, where it settles, producing a choking sensation. He suffers from indigestion and vomits frequently.

The patient, a blacksmith, and still pursuing his trade, looks pale and emaciated. When sitting still, and being by himself, he breathes naturally and without any difficulty; but as soon as he undertakes to talk he has, at

intervals to bend his body forwards, steadying the upper extremities on the thighs, so that the shoulders are raised. In this position he half rises, then drops back on the seat, after which he feels more comfortable for a time. Sometimes when the want of breathing is specially oppressive he walks about and stoops every once in a while. He claims that it is more fatiguing for him to talk than to work at his trade. He is subject to vertigo, and always has been a sufferer from headaches and dyspepsia. The cervical spinal processes are painful; also the muscles of the nape of the neck. There are occasional twitches of the facial muscles and he is often troubled by epigastric pulsation. The heart intermits at times. As soon as he becomes aware of this, as he usually does, a fright comes over him; he feels his pulse, gets still more frightened on ascertaining the intermission, and it gets weaker and slower. Precordial pain and anxiety supervene, and for a time he is physically and mentally in the most wretched condition.

After sexual intercourse, which he claims is necessary for him twice a week on account of a swelling of the testicles and a number of annoying sensations in those organs, the dyspnœic symptoms are aggravated.

The one symptom that strikes the observer above all others in this case, is the very peculiar series of movements which the patient goes through, in order to fill his lungs with air, in order to relieve the oxygen-hunger. On imitating it I find, that it is a simple and easy way of bringing on a deep inspiration. By bending forward in the sitting posture the abdomen and its organs are pressed against the diaphragm, and the air is expelled from the lungs; the raising of the shoulders by steadying the slightly-bent arms on the thighs, the capacity of the thorax is increased, and by raising himself, the diaphragm following the traction of the abdominal contents descends, whereas the intercostal spaces are widened, thus causing the air to rush into the lungs.

In this case, also, the central vagus disturbance is in

the foreground, but unlike the one first described, it offers heart and stomach symptoms; in fact, the whole pneumogastric, or, rather, its centers and its neighbor, the vasomotor center, and slightly the nucleus of the facial nerve are involved. In his case the respiratory vagus neurosis is only an incident, or episode, as it were, in the long train of symptoms of grave congenital neurasthenia. This patient was born with a weak and unstable vagus, which was unreliable to such a degree that it stamped him a weakling from birth.

No drug, as might have been foreseen, was of any avail in this instance. With the ups and downs of his existence as a confirmed neurasthenic the respiratory trouble would get better and worse.

Affusions of cold water seemed to be the only means, which, together with a regulated diet, had a good effect on the distressing symptoms. The every-day observation that aspersion of cold water to any part of the surface of the body will produce a deep inspiration (by reflexly exciting the respiratory center), explains this result.

I have treated, besides these two, a number of cases of a class of neurasthenia, in which the vagus symptoms were less obtrusive but obvious enough to call for vagus therapeutics.

Aside from the cold water (the use of which, however, many neurasthenics do not at all bear) strychnine and quebracho (in the form of the fluid extract) seemed to be the most uniformly successful remedies, although I have to record, as might be expected, a number of failures.

Especially in women with weak and irritable vagus centers quebracho seemed often to have a surprisingly beneficial effect.

Lately I have used the aspidospermine, its impure alkaloid, instead, with satisfactory results.



## CURSORY CLINICAL NOTES.

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### A CASE OF MISSISSIPPI VALLEY NARCOLEPSIA.

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By C. H. HUGHES, M. D., St. Louis.

READERS of the ALIENIST AND NEUROLOGIST are familiar with the writer's views on this interesting but rarely recorded neurosis. They know that he maintains that this disease is due to the repeated, long-continued assaults of the malarial poison upon the nerve centers, and that it is, in his opinion, found in the valleys of the Mississippi and Missouri rivers and other south, central and western streams of the United States which run through alluvial soil, as well as on the banks of the Nile or Ganges, or marshes and lagoons of Africa. (*Vide* ALIENIST AND NEUROLOGIST, April, 1886.)

The following is a brief confirmatory case now made known by the father of the patient, who is himself a physician. If time permitted, others might here be added :

E. B., age 11 years; previous health good. Family history good on mother's side. Three aunts and one uncle died from phthisis pulmonalis on father's side. No insanity nor epilepsy in family history as far back as known. Patient has been in school ten months of each year since she was five years of age—a very close student. During the month of November, 1890, she began complaining of being tired frequently, and had some headache occasionally. Appetite gradually failed until she ate but little. Gave her antimalarial treatment which did not relieve her. Suspected typhoid fever, as we were having the disease in the community at that time.

About the third week she began to sleep more than usual, and very soon thereafter would go to sleep when

sitting in a chair or studying her books, and later on would sleep at the table during the evening meal, and even while playing would be unable to resist sleep. Strength failed her to a considerable degree, and by the middle and last of January she would go to sleep early in the evening, from which it was often difficult to arouse her, and at times impossible to do so by any reasonable means—punishment not being resorted to. The drowsiness came on occasionally through the day, but invariably reached the maximum late in the day. If she slept early in the day, it was of short duration, but generally the reverse in the evening. Have known her to sleep standing against the wall. She has often gone to sleep while dressing or undressing. Only a very few times were there any muscular tremor, and that slight and confined to the face. Somewhat restless during the night, often changing her position in bed. Before her illness she was amiable, but during the worst of her sickness she became very irritable.

The father consulted me about the middle of January, 1891. I diagnosed malarial narcolepsia, and prescribed galvanism—positive pole to the forehead and negative to back of neck, to be used at bedtime, daily. Also the following:

R	Ammon. brom.	. . . . .	℥ iss.
	Kali iod.	. . . . .	gr. xxiv.
	Syr. hypophos. com. (Fellows)		℥ ii.
	Syr. tolu	. . . . .	℥ ii.
	Aq. menth. pip., q. s.	. . . . .	℥ vi.
	Liq. potas. arsenit.	. . . . .	gtt. lx.
	M. Sig.—Teaspoonful every night in water.		

R	Quin. bisulph.	. . . . .	℥ ii.
	Ext. nucis vomica	. . . . .	gr. xii.
	Ferri. pyrophos.	. . . . .	gr. xxiv.
	Liq. potas. ars.	. . . . .	gtt. xl.
	M. ft. cap. No.	. . . . .	xl.
	Sig.—One after each meal-time.		

Pulse frequent and irregular a great deal of the time during sleep and when awake.

For a month during the above treatment could see but little if any change. Since that time there seems to have been a slight improvement. At this writing (March 30th) the father thinks she is in a better condition than she was two months ago. He thinks she was even better a week ago than now. He was more hopeful then than at this time.

We classify this as narcolepsia, believing it to be entitled to be so placed, and regard it as a neurosis as much entitled to a distinctive place in medical nomenclature as catalepsia or epilepsy, and we see no difference in the condition and that of the African disease as described, except in its more or less gravity with reference to prognosis. So far as our observation has gone this lethargic neurosis is far more common in this country than American authorities have indicated. Dickens' fat boy, whose narcolepsia was discovered by Kiernan's diagnostic acumen, was not the only narcoleptic outside the boundaries of Africa. We think Gillineau himself would have classified this child as we have had he seen her.

#### PERSISTENT UNILATERAL RYTHMICAL SPASM OF THE STERNO-MASTOID.

Four years ago a married lady, aged 45 years, from Southern Illinois, consulted me for a condition of extreme nervous debility, insomnia, and an annoying, and to her, alarming form of continuous rythmical spasm of the neck, which caused the head to be drawn slightly forward and downward on the left side, and rotated it toward the right. The sternocleidomastoideus would slowly and deliberately contract, and then relax. This would be followed by a transient relaxation, and then the slow spasm would recur; the recurring spasm and relaxation going on alternately with rythmical precision, and with the deliberation of a willed movement, as of the voluntary opening and closing of the hand. There was never

any sudden jerky, choreic, nor irregular athetotic position of the muscle movement assumed. The rotary flexion was as regularly-timed as clock-work, and the head always described the same rotary forward bending attitude during the muscular contraction, followed by the slow return to the normal upright position during the contraction.

A case precisely similar to this came under my observation about nine years ago, at Sedalia, Missouri, in a man of mature years, who had a history of previous severe mental and nervous strain and shock.

Both cases were treated by galvanism, labile current, not sponge electrodes, fifteen milliamperes strength, ten minutes' daily seances, the bromides, arsenic and hypophosphites during the day, chloral at night, and otherwise, on general principles of neurotic reconstruction and tranquilization. The man recovered entirely. The woman has nearly recovered. A favorable prognosis was given in both cases. There was no recognizable organic cervical or cerebral lesion in either of these cases.

A third case, a married, middle-aged lady, which presented this symptom as a secondary and not always persistent feature, had associated with the most painful and persistent recurring cephalalgia and cervical pain, and died after about eight years of suffering, of cervico-cerebral pachymeningitis. She was treated in a manner similar to the other cases, and would be so greatly benefited by the galvanism and the bromides, etc., as to appear almost well at times. She traveled in California the year preceding her death without benefit to her health. Full notes of these cases were not kept. They are recorded only in outline from memory.

#### PARTIAL SPINAL AMNESIA (*Astasia and Abasia*).

During the past month the first case of this interesting disease, so well described in the April, 1890 number of the *ALIENIST*, as partial spinal amnesia, and by Blocq as *astasia* and *abasia*, has fallen under our observation. The case is fully confirmatory of the view taken by the

distinguished author of that article in the April, 1890 number of the *ALIENIST*, Prof. Salemi-Pace, of Palermo, Italy, namely, a condition of "inco-ordination or motor ataxia through rheumatic neuropathia."

The reader will enable us to greatly abridge this communication by turning to the interesting case record and history of Prof. Salemi-Pace, who has collected in the paper referred to all the hitherto known cases, twelve in all, including his own clinical record. To this may now be added one recently reported by Dr. Greme M. Hammond, and the following, making in all fourteen recorded cases of this interesting nervous disease:

Four years ago, Mrs. ———, aged 32, who has borne no children, and who has always been delicate, fell ill with general nervous prostration, with severe neuralgic and hyperalgesic symptoms. Intense pain and tenderness pervaded the spine, and neuralgic pains shot out along the course of all the spinal nerves. There was the usual oöphorectomy, for which she received the usual surgical suggestion of oöphorectomy, with the usual promise of probable cure, and prognosis of speedy death unless laparotomy was performed, which (fortunately for her, her husband being himself a physician and surgeon of exceptional judgment) were not entertained.

The mother of this lady died of phthisis during the patient's early childhood. The father still lives but is rheumatic. The lady herself has had a good deal of rheumatism of malarial origin. When she came under our treatment she was a helpless and poignant sufferer, with excruciating neuralgias and neuritides coming in excruciating paroxysmal accessions with damp, cold changes in the weather, but there was more or less of continuous cerebro-spinal and peripheral pain. Violent paroxysms of cardialgia, simulating true angina in severity and appearance, and lasting for twenty-four hours or more unless relieved by electricity and phenacetine, with quinine and the salicylates. Both sciatics were involved, often simultaneously; likewise the femoral nerves and cutaneous

branches. There were excruciatingly painful labiæ and plantar neuritides—so painful that nothing could touch them save the soft, wet sponge electrodes. The post-auricular and other scalp nerves and the internal ears were the frequent seats of pain. The facial branches of the trigeminus were seldom involved. The supra-orbital was occasionally implicated.

Under a combined specific plan for neuralgia and malaria, with galvanism, almost complete relief has been secured to the patient at the end of a winter whose atmospheric conditions for such a patient have been most trying. This patient developed a condition which I have before noted as a sequel of intense and prolonged neuralgic central nerve-strain, namely, transient delusional insanity, the central exhaustion from the prolonged peripheral pain causing the brain to give way in delirium, after the diverting influence of the persistently recurring pain had ceased, and she would see strange sights and believe strange things concerning herself. She imagined, for instance, that someone would come into her room and injure her during the night—that I injured her feet by squeezing them in a vice, etc.

This condition of acute delirium sequent to neuralgia I have hitherto described as encephalotrophic or cerebrasthenic insanity, because I believe a neuratrophic and neurasthenic state of the cerebrum to be the cause of it. It is the intense cerebral exhaustion of post-neuralgic neurasthenia that causes the mental perversions.

These patients usually recover as the nutrition of the exhausted cerebral centers improve, the cerebral neuratrophia and neurasthenia (cerebrasthenia) disappears, and with them the delirious symptoms it causes.

This patient has entirely recovered mentally, but there remains a condition I have not seen before to follow neuralgia or neuritis of this description, namely, one in which she can move her limbs completely in any direction while she is supine, one in which she can sit erect without support and stand erect if held around the waist,



but one in which she cannot stand upon her feet unassisted or project her feet forward, while upright and supported. She can put them forward while sitting in a chair. This patient has no anæsthesia and has developed no symptom of hysteria in the progress of her malady, unless this symptom be susceptible of such designation, and she is a hypnotizable subject and shows no atrophy of the limbs.

I am disposed to regard her remaining symptoms as the result of her neuropathic condition, aggravated by the rheumatic and malarial toxæmia and due to the cerebral shock and exhaustion of pain. I think it entitled to the designation Salemi-Pace has given it, of partial spinal amnesia or abasia; there being but little if any of the astasia described by Blocq, though both astasia and abasia appeared to exist at the beginning of her convalescence. The inability to stand was not due to the persistence of the sciatic pain or tenderness, for that as well as the spinal pain has disappeared.

#### VICARIOUS GASTRIC APOPLEXY.

Under this designation I would place a recent case which has fallen under my observation with the following symptoms:

The patient, aged 51, male, and an active, successful and prospering business man, very energetic, always too busy to give time to his meals, acting often as an auctioneer, was suddenly seized with a prostrating hemorrhage of the stomach, which caused him to fall down unconscious. After losing several pints of blood and fainting, the bleeding performed its own hemostatic, and the patient after many weeks of prostrating illness was again enabled to regain his feet, after the loss of about eighty pounds of flesh. He had shown previous evidences of stomach disease. No ulceration or dyspepsia of marked degree, and the most careful palpation in recumbent position reveals evidences of pyloric or other tumor of the stomach. The gastric juice is normal and the hydrochloric

acid is not absent. Some gastric tenderness remained after the attack and solid food could not be taken without pain.

Under bromide of sodium in thirty-grain doses in peppermint water, three times a day after meals, with papoid in five-grain doses and seltzer water after meals, with an ergotin and aloin pill nightly the improvement of this patient has been remarkable. Placed at first on a milk and cream diet, he now eats with impunity what he relishes, and is rapidly regaining his lost flesh.

The man's life previous to his hemorrhage was such as would have most likely developed cerebral hemorrhage had not the hæmic determination have been vicariously to the stomach, as other members of his family have had apoplexy cerebri. There is no history of venereal disease, alcoholism or tobacco habit in this patient's life. There is no hepatic cirrhosis or splenic hypertrophy and no significant urinary signs, but the patient had rheumatism while under our treatment. The reader must judge whether our conjecture as to the nature of this hemorrhage is correct.

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# SELECTIONS.

## CLINICAL NEUROLOGY.

COMPARISON OF THE OCULAR TROUBLES IN LOCOMOTOR ATAXIA, MULTIPLE SCLEROSIS, AND HYSTERIA.—In a recent clinical lecture at the Salpêtrière, Charcot considered comparatively the ocular troubles occurring in tabes, multiple sclerosis and hysteria. Amblyopia with nacreous degeneration of the papilla is often the first symptom of locomotor ataxia, even preceding the motor incoordination, the diminution of the reflexes, the lightning pains, by many years. Nystagmus, when not hereditary, has a symptomatic value almost as great in the diagnosis of disseminated sclerosis.

In tabes, paralyzes of the motor muscles of the globe of the eye are very frequent, especially paralysis of the muscles innervated by the *motores oculorum*. When in presence of the diplopia proper to paralysis of the third pair, one should always have in mind the probability of tabes. Paralysis of the abducens has also been witnessed in tabes, but very rarely. In disseminated sclerosis, it is the abducens which is attacked in preference; paralysis of the *motores oculorum* is much less frequently seen. Hysteria may sometimes engender strabismus by paralysis or by spasm; it may give rise to associated paralyzes but never to nystagmus. In hysteria, there is also the lid-drop, and the ptosis is due, not to paralysis of the levator muscle, but to spasm of the orbicularis. We find, moreover, in hysteria, a symptom not met with in any other affection, namely, monocular diplopia, so well studied by Parinaud. Diplopia is generally binocular, and is due to paralysis of the third pair or of the abducens.

The condition of the pupils in locomotor ataxia is peculiar; they are generally contracted. This is especially noticeable in patients who have blue eyes. Sometimes the pupils are unequal; one is moderately dilated, the other is small. This inequality of the pupils is only seen in two diseases, general paralysis and locomotor ataxia. There is another sign equally common to these two affections, that is, what is designated under the name of the Argyl-Robertson pupil. If near to one of these pupils

when moderately dilated you hold a light, the pupil does not contract; if you place the patient in a dark room, you will observe that the pupils fail to dilate. The pupils do not contract under the influence of light, while under the influence of efforts of accommodation, they react as in the normal state. Nothing of this kind is observed in multiple sclerosis. Generally in this affection there is nothing special to remark in reference to the pupil. (We have seen atrophy of the optic disc.—Ed.)

In tabes, one may frequently witness sclerosis of the optic nerve; the ophthalmoscopic observation is like an autopsy on the living subject. The retinal vessels are seen to be small and atrophied; the nerve has a pearly-pale, anæmic aspect (nacreous papilla); these appearances are always of unfavorable augury, and the patient who presents them will be surely tabetic and blind in the course of a year or two.

In multiple sclerosis, there may be lesions of the fundus oculi, but both eyes are not irretrievably affected, and the amblyopia lasts only four or five months; at the end of this time, there is always an amelioration. Ulthoff, out of one hundred cases, noticed but one case of blindness. In this form of sclerosis, the contours of the papilla are less sharp than in the normal state; there is a sort of cloudy exudation, the vessels are atrophied; the general aspect is that of a dull, yellowish-white in extreme cases.

In hysteria, there may be amblyopia, even complete amaurosis, but the modifications of the papilla noted in sclerosis are never witnessed; the functional troubles may be very pronounced, but are sure to disappear. Hysteria almost always causes a contraction of the visual field, which is concentric instead of being irregular, as is the case in locomotor ataxia. In the latter disease, the campimetric image presents notches and indentations; at the same time, there supervenes a dyschromatopsia which has quite peculiar characters. An individual, who is not affected with congenital Daltonism, will affirm that the pantaloons of the foot soldiers appear to him black; the trees, instead of being green, are to him a grayish black color; at the same time vision for yellow and blue is still perfectly good. By-and-by the vision for yellow and blue ceases in its turn, the visual field contracts more and more, till white itself is no longer perceived.

In hysteria, dyschromatopsia is much less frequent than in tabes, and when it does exist, the colors do not

disappear in the same order. It is first the blue which is no longer perceived, then the yellow, then the other colors successively, with the exception of red, which persists alone during a very long time. In disseminated sclerosis, there is nothing to note respecting the visual field or the perception of colors.—*Boston Medical and Surgical Journal*.

HYSTERICAL AEROPHAGIA.—Under this new name Bouveret describes in the *Revue de médecine* for February 10th, clonic spasms of the pharynx which affect convulsively the movements of swallowing, occur in paroxysms, and are capable of introducing into the stomach enough air to produce a true tympanites. The case that forms the basis of the paper was that of a confirmed hysteric. From time to time she emitted gas from the stomach, alternating the movement with convulsive spasms of air-swallowing, so that an attack was made up of a succession of swallowings and eructations. The starting-point of the spasm seemed to exist in the great hyperæsthesia of the mucous membrane of the pharynx. At short intervals the muscles of the pharynx threw themselves into short, rapidly executed contractions. Each attack of spasm lasted two or three minutes, and there were from forty to sixty contractions to the minute. Each movement of swallowing was accompanied by a noise similar to that ordinarily produced in swallowing a mouthful of water. During the continuance of the spasmodic action no air was expelled by the nose. From time to time the muscular action was interrupted by a sonorous eructation of wind from the stomach. The gas was emitted through the mouth and the nares, and it was quite free from odor. In one minute M. Bouveret counted forty acts of swallowing and five eructations. During the continuance of the spasm when the bell of the stethoscope was placed over the left hypochondrium a series of metallic sounds of an amphoric quality became audible, which were most probably due to the bursting of bubbles of gas in the dilated stomach. Over the œsophagus a *bruit de glou-glou* was audible. The epigastrium was distended. The tympanitic percussion sound of the stomach was much extended, and this condition seemed to be present in the intestine, although as a matter of fact no air was expelled by the anus. The mucous membrane of the pharynx was the seat of hyperæsthesia of a very marked degree. The slightest touch of the pillars of the fauces or of the

posterior wall of the pharynx produced instant spasm. Another hyperæsthetic area was found in the front part of the larynx, and in this region, and particularly at the upper part of the thyroid cartilage, the slightest touch threw all the pharyngeal muscles into a state of contraction. If the excitation of this region was prolonged further it gave rise to a sensation of general *malaise* with nausea, weakness, throbbing in the temples, and oppression. This hyperæsthetic area is therefore said by the author to be both *spasmogène* and *hystérogène*.

The patient herself experienced many unpleasant sensations, such as tickling in the throat, sometimes also a feeling as if a foreign body were in the throat, pains in both ears and a sensation of tension at the epigastrium, removable by free eructation. The voluntary act of swallowing was performed with comfort. All spasmodic action seemed to cease when the muscles were put into action by the will. No vomitings or regurgitations of food had been at any time observed. It is highly probable that laryngeal spasm often accompanies that of the pharynx. The treatment, apart from that of a general tonic intention, should be directed mainly to the diminution of the oversensibility of the mucous membrane of the pharynx.—*New York Medical Journal*.

THE NAILS IN NEURITIS.—Modifications of the normal appearance of the nails are present under various morbid conditions. often a serious illness leaves its mark in a peculiar modification of nail growth, apparently corresponding to the period during which the disease exerted its most powerful effect. This peculiarity is usually manifested as a band, varying in length with the duration of the illness, in which the normal appearance and color of the nails are changed. Such a condition is seen during fevers and after injuries of nerves. A more general modification of the appearance of the nails occurs also in such conditions as those of Raynaud's disease—a disease in which, whatever the ultimate explanation of its phenomena may be, there are evidences of profound trophic disturbance. In such a disease as multiple neuritis changes in the nails were to be expected, and in the *Neurolog. Centralbl.*, No. 24, 1890, Bielschowsky describes such a case recently under his observation, in which nail changes were a marked sign. The case was one characterized by the usual signs and symptoms



of peripherhal neuritis, viz., weakness, wasting, tenderness of nerve-trunks, and absence of reflexes, with changes in the electrical reactions. The change which is described occurred in the finger-nails only, the toe-nails being unaffected, although the neuritis was present in the lower limbs. There were observed at first small white points in all the finger nails. These occurred simultaneously, and gradually extended both in length and breadth, until a white band over a millimeter in breadth was formed, dividing the normal substance above from that below. As the nails gradually grew those bands were pushed to the periphery, and they were finally removed and examined with the microscope. Examination seemed to show that the discoloration was due to the presence of air, and that the condition was thus similar to that found in hair which has become gray or white.—*London Lancet*.

BLINDNESS OF MANY YEARS CURED BY TREPHINING THE OCCIPUT.—Dr. A. D. Williams (*St. Louis Medical Journal*) notes the following suggestive facts: At a late meeting of the St. Louis Medical Society, Dr. T. F. Prewitt reported a most interesting case of prompt recovery of sight in one eye after nine years of complete blindness as the result of trephining the upper part of the occiput. When seven to eight years old the patient received a severe blow on the back of the head. When fourteen years old the left eye became totally blind, which was nine years before the operation. Severe brain symptoms slowly developed and grew constantly worse till a few weeks ago the young lady was forced to seek relief from the intense and constant suffering. The examination revealed a large, tender cicatrix in the median line over the upper margin of the occipital bone. Pressure upon the spot caused intense headache to follow. Depression of the bone could not be positively diagnosed. As stated, the left eye had been blind for nine years; more recently the vision of the other eye was seriously impaired at times. The appearance of the optic nerve in each eye was stated to be normal—an important fact in making a prognosis. Dr. Prewitt very properly concluded that the only thing to do was to trephine the skull at the point of injury. He removed a large section of bone, which was found to be much thickened but not perceptibly depressed. The dura mater was also somewhat thickened.

When a flap of the membrane was raised the substance of the brain seemed to be healthy. The wound was closed and dressed in the usual way. A few hours after the operation the patient discovered that she could see perfectly with her left (blind) eye, and the vision continued good up to the time the report was made. The doctor is to be congratulated on the brilliant, though unexpected result. In this connection I may state that Dr. Tuholske (*Courier of Medicine* for January, 1891) barely mentions the case of a woman, blind for twenty years as the result of a blow on the occiput, restored to sight by trephining the seat of injury. No particulars are given.

[Here is a suggestion for operative procedure in cases where blindness supervenes upon intercranial disease, and is apparently due to cerebral pressure or compression without local optic nerve lesion.]

ECZEMA CAUSED BY NERVE DISTURBANCE.—Dr. L. Duncan Bulkley (*Medical News*) thinks an eruption of eczema may be induced, in a person who has never before experienced the same, by certain conditions or disturbances of the nervous system; in other words, the nerve-influence can produce the disease *de novo*, and that neurotic agencies may prolong the disease or bring it out afresh. He has observed eczema in connection with or following mechanical injuries to conducting nerves; with or alternating with functional disorder of conducting nerves; with or following peripheral irritation; with or following internal reflex irritation; with or following nervous or mental shock and neurasthenia or nerve exhaustion. This is in harmony with the views of Wilson (*vide* Quain's Dictionary) and the views of Hughes previously expressed (*vide New England Medical Monthly*, 1888).

THREE FORMS OF POSTERIOR SPINAL SCLEROSIS are recognized by Dr. D. R. Brower, as follows:

First, a cerebral form, characterized especially by cephalic phenomena, inequality of the pupils, trouble in the reaction of the pupils, myosis, temporary diplopia, optic atrophy, deafness, laryngeal signs, vertigo and apoplectic form phenomena.

Second, a spinal form.

Third, a peripheric form, produced especially by traumas.

The treatment ought to correspond to these different forms. In all, however, prolonged repose in bed (during six to eight months) is a useful adjuvant; massage and a change of climate are also indicated.

Suspension appears to the author to be useful in the cerebral forms. By acting on the vessels of the neck this method modifies the nutrition of the brain.

Stretching of nerves is suitable especially in the peripheral forms. Brower uses, for stretching the spinal marrow, a special apparatus which produces at the same time stretching of the marrow and of the nerves.

In the spinal forms, he advises general faradization of the skin, with the brush.

Finally, it is necessary to treat at the same time the diathesis; whether syphilitic, rheumatic or gouty, which is usually associated with tabes.

THE DIAGNOSIS OF POSTERIOR SPINAL SCLEROSIS (TABES). —Dr. Edward C. Seguin, in a paper read before the Providence (R. I.) Medical Association, Dec. 1st, 1890 (*Boston Med. and Surg. Jour.*, Dec. 25th, 1890), arrives at the following conclusions:

1. In my opinion the determination of the existence of fulgurating pains with one or more of the four symptoms I have referred to in detail, occurring in a subject over twenty years of age, not only justifies but renders imperative the diagnosis of posterior spinal sclerosis. Any other diagnosis should be held as betraying ignorance or want of scientific courage. Excuse the force of this remark, but my memory is so filled with recollections of neglected and maltreated patients that I must cry out loudly in behalf of an early diagnosis of tabes.

2. The existence of fulgurating pains alone, in a subject over twenty years of age, warrants a diagnosis of probability, and justifies the ordering of a special treatment.

3. The occurrence of transitory or permanent diplopia (strabismus), especially if the subject be over thirty years of age, should at once arouse a suspicion of the beginning of tabes, and other symptoms should always be sought for diligently.

4. The existence of Argyll-Robertson pupils alone should lead the physician to anticipate posterior spinal sclerosis or dementia paralytica.

5. The absence of knee-jerk is not in itself of specific

value; but it is abnormal, and should cause a careful search to be made for other symptoms.

AN EARLY SYMPTOM OF LOCOMOTOR ATAXIA.—Dr. Heinrich Weiss describes the case of a book-keeper, whose first symptom was an uncertainty in stepping backward, in whom characteristic manifestations of locomotor ataxia subsequently developed. The importance of this initial symptom was pointed out by Althaus in 1884, in reporting the case of a painter, who noticed it in himself as he backed away from his easel.—*Wiener Medicinische Presse*.

### NEUROPHYSIOLOGY.

MUNK'S VISUAL CENTER.—Dr. B. A. Ratimoff, in the *Bolnitchnaja Gazeta* for February 7th, 1890, gives the history of a case of gunshot wound of the head that he thinks supports Munk's ideas as to the locality of the visual center. A student, twenty-two years old, shot himself accidentally with a revolver. The ball entered the right side of the head at a point eight centimeters above the level of the external auditory canal, and three centimeters behind it. Three hours after the accident the patient was perfectly blind, but he was conscious and able to give an intelligible account of his case. His general condition was good; the pulse and temperature were normal; there was no paralysis or paresis, and none of the senses but that of vision were impaired. The pupils reacted perfectly to light, and ophthalmoscopic examination revealed no abnormality of the fundus of either eye. The case was diagnosticated as one of lesion of the visual center, but doubt was felt as to whether or not the center on each side had been injured.

Trephining was resorted to, and the opening made in the skull by the bullet was found to be over a centimeter in diameter. A detached fragment of the inner table lay at the bottom of the wound. This, together with a mass of clotted blood, was removed, and the track of the bullet was explored carefully with the little finger and with a probe to the depth of four centimeters, but the missile could not be found, and the wound was closed, a drainage-tube having been inserted into it. This was on the 30th of September, 1889. By the 8th of October the patient's color-vision was perfect, and he was

able to read large letters at a distance of five feet, but the field of vision was found to be restricted in the left half of each eye. The ophthalmoscope revealed no change except an imperfection of outline of the papilla of the right eye. The wound healed by first intention, but on the eleventh day after the operation it took on an unfavorable course; suppuration took place, the brain began to protrude, the power of sight decreased, and the patient suffered with intense headaches, restlessness, delirium, etc. On the 26th of November he was in a state of profound stupor preceded by alternate clonic and tonic convulsions. The stupor lasted for thirty-six hours, after which the speech was imperfect, there was paresis of the left side of the face and of the right upper limb, and vision was considerably impaired, with decided hemianopia. Ophthalmoscopic examination showed neuro-retinitis of equal degree in the two eyes, with moderate enlargement of the retinal vessels.

Death having taken place, it was found that the brain lesion was behind and below the posterior end of the fissure of Sylvius, in the postero-inferior occipital convolutions and in the part corresponding to the gyrus angularis. The brain in general was somewhat flattened on its surface, and the posterior convolutions were almost effaced. The dura was firmly adherent to the brain. The direction taken by the bullet had been from before and above on the right side backward and downward toward the left side, and the missile had destroyed the right visual center, passed through the longitudinal sinus, and entered the left visual center. There was an abscess at the site of each center, and the left one contained the bullet. The author thinks the features of the case confirm Munk's views as to the locality of the visual centers in the human brain.—*Med. News.*

**A LARGE BRAIN.**—The brain under consideration weighed sixty-four ounces. The bearer of the brain was a man of seventy-five, five feet ten inches in height and weighing 172 pounds. The circumference of his head was twenty-four inches. The cause of his death was leucocythæmia, with hemorrhagic effusion into the left pleuric cavity. There were numerous petechial hemorrhages elsewhere, including one in the first frontal convolution on the left side. The brain was very anæmic, contained almost



no fluid, and was put on the scales almost immediately on removal from the cranial cavity. The brain was large vertically and well shaped all over, with convolutions if anything larger than normal and sulci wide over vertex, except occipital.

The following facts as to the patient's previous character have since been obtained: He was a sawyer all his life until a few years ago. His education was poor, but his intelligence seems to have been above the level required for his work. He was a good judge of wood and a fair amateur cabinetmaker. He lacked ambition however and was neither ambitious nor very energetic. He had almost no interest beyond his work and family. He took no part in social questions, politics or religion. He read very little and did not care for amusements. He had a hasty temper and was given to bouts of drinking at one time; otherwise he was a good husband and father, and was very kind-hearted. The mental disturbance for which he was sent to the asylum was of the nature of a premature senile break-down, with marked confusion, aphasia and impulsive violence.—G. R. Wilson, M. D., in *Edinburgh Medical Journal*, January, 1891.

LOSS OF CONSCIOUSNESS IN EPILEPSY.—Brown-Séquard asserts that in epilepsy, as in natural sleep, it is beyond doubt that cerebral anæmia is not the cause of the loss of consciousness, but that it is extremely probable that the cessation of the activity of the brain in sleep, either hypnotic or normal, in *petit mal*, in a well-developed epileptic convulsion, in certain cases of syncope, in asphyxia, and in poisoning, depends upon an inhibitory action upon the base of the encephalon and cervical marrow, without the quantity of blood being diminished in the brain. He has demonstrated this inhibitory action by several experiments upon dogs and other mammals, the mere section of the skin of the neck, which it is necessary to make in order to expose the great sympathetic and its ganglia, being followed by an inhibition of the epileptogenous power of the brain, whilst ablation of the two superior cervical ganglia is followed by the same inhibitory action, the quantity of blood in the brain remaining normal.—*Archives de Physiologie*, January, 1891.

THE SPINAL COLUMN IN SUSPENSION.—Dr. James Cagney (*Jour. of Anat. and Physi.*) has investigated the effect



of traction upon the spinal column, and has found that whilst the concavity of the dorsal spine is lengthened, the convexity is shortened. Therefore the spinal cord would be loosened and not stretched by a straightening out of the column, as, for instance, by suspension. It is further shown that shortening and relaxation take place in all the curves when the body hangs freely by the arms. The action of the muscles is also mentioned, and is shown to tend towards the shortening of the spinal canal, and therefore to the protection of the cord which it contains.—*N. C. Med. Jour.*

BROWN-SÉQUARD'S "EXTRACT."—Dr. Postchinine, in the *Gazette Medicale de Botkine*, recently made a report to the Medical Society of St. Petersburg, the gist of which is as follows:

After the publication of Brown-Séquard's first communication on this subject the author was somewhat skeptical, but in his esteem for the celebrated physiologist, resolved to institute experiments at the first opportunity.

The subject of the first trial was an old dog that could scarcely walk. An extract was employed, prepared in accordance with all the rules of antiseptis, from the testicles of a rabbit. After the first injection the animal began to walk, and after the fourth every trace of weakness disappeared.

With so surprising a result, it was resolved to repeat the experiment on man. The patient, sixty-eight years old, had suffered a short time before with a severe attack of pleuro-pneumonia, which left him so enfeebled that he was unable to resume his occupation. After five injections of testicular juice (first sterilized in the most careful manner possible), giving two injections weekly, the patient experienced a return of strength and energy; a sciatic pain, which had long tormented him, disappeared. After eight injections his reproductive powers returned.

The second case was that of a syphilitic, attacked by profound diabetic coma. The very first injection produced a notable amelioration; after the fourth, the somnolence disappeared, and curious to relate, with the improvement of the general condition, the sugar diminished in the urine. The author, himself a diabetic, obtained the same result in his own case.

Dr. Postchinine tested this treatment in ten other

cases, one of which was an old man of ninety, who, after treatment, walked without a cane, which had before been impossible. As a local reaction the puncture was accompanied by a lively pain, which at times persisted for forty-eight hours.

The author concludes that the injections of Brown-Séquard "produce in the animal organism indubitable tonic and stimulant effects, though through what physiological process remains unknown; it may, however, be affirmed that the injected substance stimulates the activities of the cerebral centers, also the heart function, elevating the blood-pressure and the general nutrition of the body.—*Chicago Medical Times*.

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## PSYCHIATRY.

PARETIC DEMENTIA AND SYPHILIS.—Dr. Kiernan (ALIENIST AND NEUROLOGIST, 1883) concluded that neither from a clinical, therapeutical, nor pathological stand-point, could leutic parietic dementia be demarcated from leutic. Recent researches tend to bear out this view. Mendel, in the *Medical Progress*, has produced parietic dementia in the dog for a few minutes daily, by fastening a dog to a table so that his head was fixed at the circumference and his feet at the center; the table being caused to revolve about 150 times per minute. The dementia, alteration in phonation, gait and cerebral lesions were produced. The alterations in the cerebral vessels which facilitate the emigration of the white blood cells, on the one hand, and the active congestions of the brain produced by occasional causes, on the other hand, play the principal part in the development of this malady. The frequent congestions of the brain (as the result of drunkenness, of excesses of emotional excitement) in a subject whose cerebral vessels are already altered, may easily induce the characteristic processes of parietic dementia by fixing the dogs on the table in such a manner that the head is at the center and the feet at the circumference, so that rotation produces anæmia of the brain, neither the symptoms nor the pathological changes are produced in these animals. This explains the favorable action of ergotine. Mendel advises the treatment by rotation with the head at the center, thus causing anæmia. After injections of corrosive

sublimate in dogs, Mendel found that artificial paretic dementia could be induced more speedily and easily in these dogs. The mercury having caused alterations in the vessels, the congestions produced rotation, acted upon the altered vessels more energetically. These facts show, Mendel claims, the mode of development in syphilitics is like that provoked by rotation. Syphilis acts entirely upon the vascular system, whence it results that injurious influence (excesses, drunkenness, emotional disturbances) producing active congestions of the brain, act on a syphilitic, that is, a subject with altered vessels, more energetically than on a man whose vascular system is intact. This explains why specific treatment does not cure paretic dementia and tabes, but it also shows that this treatment may be very hurtful, since mercury is a poison to the vascular system. These observations of Mendel have been confirmed by Professor Furstner. This then, is the relation of tabes and of paretic dementia to syphilis; tabes is not a symptom of syphilis, but an entirely distinct disease, in the origin of which syphilis plays an indirect rôle. Syphilis produces disturbances of nutrition in the nervous system (in the vessels?): the injurious influences to which a syphilitic is subjected (drunkenness, excesses, etc.) cause tabes to appear in him more easily than in a subject who has never had syphilis.

NAPOLEON AS AN EPILEPTIC.—[Talleyrand, in the "Memoirs" now appearing in *The Century*, gives an account of Napoleon's having something like an epileptic fit, and of the indomitable energy with which he immediately afterward resumed the march.]

I received instructions to accompany him to Strasburg, so as to be ready to follow his headquarters according to circumstances (September, 1805). An attack which the Emperor suffered at the beginning of this campaign alarmed me peculiarly.

The very day of his departure from Strasburg I had been dining with him; on rising from the table he went alone to the Empress Josephine's apartments, and after a few moments came out again in an abrupt manner. I was in the drawing-room; he took me by the arm and brought me to his room. M. de Rémusat, his first chamberlain, who had certain instructions to get, and was afraid Napoleon might go without giving them to him,

entered at the same time. We were barely in when the Emperor fell to the floor. He scarce had time to tell me to close the door. I tore open his neckerchief, as he seemed to be suffocating; he did not vomit; he groaned, and foamed at the mouth. M. de Rémusat gave him some water; I inundated him with eau de-Cologne. He had something in the nature of convulsion, which ceased in about a quarter of an hour. We seated him in an arm-chair; he began to speak again, dressed himself, urged upon us to say nothing of this occurrence, and half an hour later he was on the road to Carlsruhe. On reaching Stuttgart he let me know how he was; his letter ended with the words: "I am well. The duke (of Würtemberg) came to meet me as far as outside the first gate of his palace; he is a clever man." Another letter of his from Stuttgart, and dated the same day, said: "I have heard of Mack's doings; he is getting on as if I led him by the hand myself. He will be trapped in Ulm like a clod-hopper."

NICOTINE PSYCHOSES.—Schroff (*Wiener med. Press*) states that the primary effect of tobacco on the system is excitation, the secondary, depression. The entire muscular system is affected; also the heart and the vasomotor system. *Nicotinosis mentalis*, is a primary insanity following a regular course and with distinctive symptoms. The chief characteristics are feeling of extreme debility and impotence, with early hallucinations, delusions and suicidal tendencies. The patient is restless, easily excited, sleepless, indifferent to usual occupations, and depressed. Hallucinations of sight, hearing and of general sensation result. Much palpitation and pain in heart. Later in the disease his delusions become more exaggerated. He has visions of angels, heaven and hell: is excitable and boisterous. The paroxysms of excitement are periodical, lasting two weeks or more, with intervals of quiet. In the beginning of the disease the patient is gloomy and restless; later, and as it becomes chronic, he is more quiet and demented. Patients sometimes recover in the early stages but never in the later ones.

Kjellberg, of Upsala, Sweden, in a paper read before the International Medical Congress, stated that *Nicotinosis mentalis* is a primary disease which belongs to the group of mental intoxications. It has a stage of about three months, characterized by general *malaise*, uneasiness,

insomnia, depression, often of a religious tendency. After the disease has become established there are three stages: Hallucinations, fixed ideas with tendency to suicide, depression, attacks of fear and outbursts of anger. The patient talks little, but logically; the nutrition is impaired. Extalations of a pleasant type; after two or three weeks depression again followed by a slight maniacal condition. The intervals are shorter, the patient very restless; intellect and memory impaired. The patient observes what is going on, but is taciturn and indifferent.

Prognosis good before third stage, but after that, poor. Treatment mainly abstinence from the use of tobacco, with nutritous diet. The early symptoms essentially those of acute confusional insanity.

THE CLIMACTERIC AND INSANITY.—Matasch (*Zeitschr. Psych.*, B. XLVIII.) states that the time, character and duration of the climacteric are the same in the insane as the sane.

Genital diseases of the climacteric seem to be more frequent in the insane. Cardiac insufficiencies demonstrably not of climacteric origin, occurred, but steroid climacteric symptoms are chiefly the neurasthenic expressions of a morbid constitution, which is acquired in a few cases. Frequent climacteric sensations of vertigo and vertiginous attacks are signs of an epileptic constitution. In the twenty-seven cases where they appeared, there were many other evidences. They were present in the non-climacteric insane; also at the time of, or after the climacteric, in six cases. Congestions are accompanied by vertiginous attacks. Hemicraniaæ are also closely related to them. Roaring in the ears is relatively frequent and also præcordial sensations, and often at the same time with cardiac insufficiencies; among these enlargement of the heart, blowing at the ventricle-valves, and an increase and change of the second sound. These were present in 24.7 per cent. Chlorosis and early arthrosis, the signs of hereditary weakness of the vasomotor system, are of importance in this direction, and every indication of insufficient cerebral nutrition explains the predominance of depressive form in the climacteric. The cases of simple psychic disturbances presented a great predominance of misinterpretations of intestinal and other bodily symptoms, even in cases of melancholia which had



recovered. Frequently the sensation of burning in the skin was the cause of anxious and hallucinatory ideas. Erotism was present in a great measure in the abdominal sensations of climacteric patients. Roaring in the ears and gastric disturbances are frequent. Losses of blood are not of decisive influence upon the supposed anæmia upon which the nutritive disturbances are supposed to depend. Changes in the vasomotor system and atherosclerosis, play an important rôle. The atherosclerosis acts in two ways, by continually limiting the circulation and rendering the rigid tube more or less movable, among the senile psychoses.

Among 551 cases 10 were parietic dements, which without preceding syphilis, were aided in their outbreak by syphilis during the climacteric. On the whole, the climacteric is a frequent etiological factor, but only with the organic predisposition. The menopause was noted in 60 cases of chronic psychosis; in 33 it was without influence, in 14 it had an aggravating, and in 13 certainly an improving influence. Sometimes it gives rise to a periodicity which may lead to mistake as to whether recovery has taken place. It increases the predisposition to apoplexy, morbidity and mortality of the insane.

INSANITY AND DEAFNESS.—Dr. Sanborn, of the Augusta Maine Insane Hospital, reports the case of a periodical lunatic who could hear with great acuteness in the insane period but was deaf when sane. Similar cases are reported by Winslow and others.

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## PSYCHOTHERAPY.

THE EVILS OF HYPNOTISM.—Professor Germain Sée, in a recent series of lectures on "Sleep, Insomnia and Somniferous Agents," has called attention to some of the evils which he thinks may be derived from hypnotic practices when employed for therapeutic ends. Hypnotism favors and develops tendencies to hysteria. Hysteria is a disease in which the higher cerebral activities are suspended. Now this is a leading and essential characteristic of the hypnotic state. The Minister of War in France, in consequence of certain bad results, has forbidden military physicians to resort to hypnotism among the soldiers from fear that hysteria might be prevalent in the army. The same prescription, says Professor Sée, ought, with at least equal



force, to apply to the practice of hypnotizing children, who may be made fools or crazy by the constant repetition of such practice. Gilles-de-la-Tourette declares that those that are hysterically predisposed are almost certainly made hysterical by frequent hypnotizing; and as for those already hysterical, if, by chance, one now and then succeeds in curing a paralysis or a contracture, it is only to make the disease locate itself elsewhere or substitute for the contracture or paralysis a series of fits.—*Ther. Gaz.*, May, 1890.

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## CLINICAL PSYCHIATRY.

THE CONTINUOUS EMPLOYMENT OF SULPHONAL IN PSYCHOSES.—Among the newer hypnotics, suphonal appears to be holding its own remarkably well. Quite an extensive literature has already sprung up relating to this drug, which was added to our medical armamentarium only two years ago. While many observers have recorded only gratifying results from its use, others have expressed themselves in a less enthusiastic way, and retain their preference for chloral and opium.

Umpfelbach (*Therapeutische Monatshefte*) thinks chloral more certain in its effects. Garnier (*Annales Médico-psychol.*) says that suphonal insures sleep, but does not quiet patients in the day-time. Knoblauch (*Therapeutische Monatshefte*) is far from pleased with its employment.

Prominent among those who are strongly impressed by its excellent hypnotic properties are Kast, Rabbas, Rosin, Oestreicher, Cramer, Schwalbe, Normann, Otto, Jastrowitz, Pachoud and Claret.

The most recent contribution to the subject is published by Dr. Vorster in the *Allgemeine Zeitschrift für Psychiatrie*. The author has had considerable experience with suphonal, having used about three hundred ounces of the drug in fifty-six cases of mental disease, the patients being inmates of the insane asylum of Königs-lutter. He says that its systematic exhibition results in sleep at night and pacification by day. Motor explosions are suppressed by suphonal, and this accounts for some unpleasant phenomena occasionally observed, such as staggering gait, vertigo, difficulty of speech, and weakness of the extremities. It is pre-eminently a motor depressant.

In hallucinations accompanied by fear and similar psychoses, its good effects are less apparent. In acute and chronic mania, in senile dementia, in progressive paralysis, idiocy, and epilepsy, perverted motor manifestations were almost invariably held in complete control. The daily dose required to insure its efficacy was rarely sixty grains; generally thirty grains were found sufficient. In acute mania or *mélancholia*, the author asserts that sulphonal is as beneficent in its action on the brain as an aseptic dressing on a fresh wound.

Symptomatic improvement in cases of severe epilepsy was also observed by Dr. Vorster under the systematic administration of sulphonal.

"Sulphonalism" was at times observed by the author. He states that this condition shows two stages, first a motor-depressive, and second, a sensory-depressive one. He never saw sulphonalism develop after a single dose of the drug. As this part of the subject has received little or no attention in our country, we will follow the author in his description of the two stages mentioned.

The first stage is characterized by motor disturbances resembling paretic weakness. The lower extremities are first affected, the patient's gait assuming a staggering character. Next the tongue, and still later the arms, participate in this weakness.

As regards the second stage, the symptoms resemble those of sopor. The patient is drowsy, he can be wakened by a loud voice, but presently falls asleep again. Sensibility to pain is lessened. Cutaneous reflexes are absent, but the tendon reflexes persist. In taking food the patient requires assistance.

The author says that the first stage is devoid of danger, but the supervention of the second stage carries a warning with it that too much sulphonal has been used, especially as cardiac weakness has been noticed while it lasts.

Dr. Vorster has witnessed no unpleasant symptoms on discontinuing sulphonal after its daily employment for weeks and months. Phenomena analogous to morphinism were never observed.

On the whole, we are disposed to agree with the author that sulphonal is a valuable remedy, and that its employment in disturbed mental states deserves a further trial.—*New York Medical Record*.

## NEUROTHERAPY.

A SUBSTITUTE FOR MASSAGE.—The importance of massage in the treatment of various local and constitutional conditions becomes daily more generally recognized. Ten years ago the procedure was scarcely practiced in this country, although almost from time immemorial it has been used in Oriental lands. Before the recent changes in the government and laws of Japan its practice was confined by law to the blind, who were thus enabled to make a livelihood in a manner for which they are especially fitted by the peculiar development of the touch-sense which is so apt to follow loss of vision in early life. Provided with a sort of flageolet, the sightless masseur still gropes his way along the streets and lanes of Japan, tooting his instrument to give notice of his presence. In this country we have never known of a blind person practicing the art, and we are rather surprised that the managers of blind asylums have never had their attention called to this possible avenue of labor open to their pupils.

Massage acts chiefly by influencing the local circulation in the part which is labored with. The chief objection to it is the skill which is required for its practice and the expense which it therefore entails, and more especially the difficulties of finding employment for its votaries, which forbid its use away from considerable centers of population.

As an aid to, or possible substitute for massage, we can strongly recommend the muscle-beaters made by Mr. John E. Ruebsam, of Washington. They consist essentially of india-rubber tubes or balls, so arranged on elastic sticks as to simulate more or less closely the hand as employed in the beating movements of massage. They undoubtedly have the power of distinctly affecting the local circulation in the part beaten with them, and produce no pain or bruising. For the maintenance of nutrition in paralyzed limbs, for the warming of cold feet and other portions of the body which suffer from lack of circulation, as in neurasthenia, for the stimulation of muscles affected with chronic rheumatism, as in chronic lumbagoes, we have found them serviceable. When it is possible to obtain skilled massage, and the severity of the symptoms is sufficient to warrant its employment, the muscle-beater may be very well used once a day as an assistant, so to

speak, to the skilled attendant. Thus, in the evening, it may be employed to aid the massage and manipulation of the morning.—*Therapeutic Gazette*, April, 1887.

MUSCLE-BEATING.—Massage has come to be a recognized procedure in curative medicine, and we believe that it would prove immensely serviceable were it universally available, in establishing and maintaining that vigorous, robust state of health so essential to a successful warfare against disease. But the expense of, and conditions incident to, the practice of massage make it a procedure practically available only in cases of sickness. But a most excellent substitute for it may be found in the "Muscle-Beaters," which Mr. John E. Ruebsam, of Washington, D. C., has invented and offers for sale. They consist essentially of india-rubber tubes or balls, so arranged on elastic sticks as to simulate more or less closely the hand as employed in the beating movements of massage. They undoubtedly have the power of distinctly affecting the local circulation in the part beaten with them, and produce no pain or bruising. For the maintenance of nutrition in paralyzed limbs, for the warming of cold feet and other portions of the body which suffer from lack of circulation, for the stimulation of muscles affected with chronic rheumatism, as in chronic lumbagoes, they are serviceable. We really take pleasure in recommending these "Muscle-Beaters" to our readers, for we believe they will derive much benefit from their use.—*Annals of Hygiene*, October, 1888.

FACTS *vs.* FANCY.—There is no danger of cumulative action on the part of digitalis if the blood and secretions are first alkalized. For painful and frequent micturition, tinct. myrrh combined with populin is unrivaled.

A deep-red, scarlet tongue, indicates a superabundance of phosphates and soda. Administer dil. nit. mur. acid to bring about an equilibrium of the salts of the body.

A broad, flabby, dirty-white tongue indicates an acid condition of the system. Give alkalies to neutralize this condition, and no better can be found than the hyposulphite of soda.

A scrofulous subject is easily detected: this condition calls for the iodides. One of these three conditions are to be found in most all cases of malaria and ague and fever, which must be met before success will crown your antiperiodic treatment.—*Therapeutic Analyst*.

ANTI-KAMNIA.—Good reports of Antikamnia as an analgesic come to us from reputable physicians, among them by A. V. L. Brokaw, M. D., St. Louis, Mo., Demonstrator of Anatomy and Surgery, Missouri Medical College, Junior Surgeon to St. John's Hospital, reports a unique case of stab wound of thorax and abdomen, with recovery, in which he successfully employed Antikamnia for the relief of the pain of which the patient complained; no opiates were given; administered in 10-grain doses. *Ibid* *Courier of Medicine*, Dec., 1890. And Dr. Chas. F. C. Hancock records the relief of the fulgurant pains of locomotor ataxia with this coal-tar product. [We have also verified the virtues claimed for it by personal clinical observation.—ED.]

PAPINE.—Dr. Thos. Little, of Spirit Lake, Iowa, in comparing Papine with other forms of opium, says: "It meets the requirements of a class in which opiates are indicated, but in which the 'remedy is worse than the disease.' One case in particular in which he had tried opium in every form, and many other narcotics, alone and in combination, but constipation, nausea and nervous prostration were the invariable results. Papine in this case had the happiest effect; no nausea, no constipation, no prostration.

AMYLENE HYDRATE IN EPILEPSY.—Nache agrees with Wildermuth as to the value of amylene hydrate in epilepsy, even where bromides have failed, and where the attacks are not only very frequent but severe. He uses a ten-per-cent. solution of the drug, and gives from one to two tablespoonfuls a day (from thirty to ninety grains). Nache also believes that *petit mal* and nocturnal epilepsy are benefited by the drug.—*Medical News*.

PILOCARPINE IN ALCOHOLISM is administered by Dr. Josham (*Medical Record*) in one-third grain doses hypodermically. Its sobering effects are said to be remarkable. Sleep ensues and the patient wakes up a perfectly rational being. The tense, red, bloated countenance, the bleared, congested eyes pass away, the features become calm and easy, the skin soft and clear.—*Dixie Doctor*.

ANTI-KAMNIA.—Dr. Chas F. Foye, of Haverhill, Mass. speaks in the highest terms of antikamnia in migraine, sciatica and other nervous diseases. He gives three grains every two hours till relief takes place.



# EDITORIAL.

[All Unsigned Editorials are written by the Editor.]

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**Address Notice.**—Please note that the editorial rooms of the ALIENIST AND NEUROLOGIST are at 500 N. Jefferson Avenue, St. Louis.

**Subscribers of the "Alienist and Neurologist"** will please remit their subscriptions to us direct. We have too much trouble with news agents.

**The Subject of Hypnotic Suggestion** is just now occupying much deserved public attention. It is but mesmerism revived, and should be treated in the same way as that subject was disposed of before its name was transformed into hypnotism. Many states of Europe and some of the health boards of this continent have taken up the subject and very properly disposed of it by suppressing public exhibitions. The last to prohibit these injurious public exhibitions of neuropathic instability and abnormal psychical control and conduct, is the Board of Health of the Province of Ontario, Canada. One of the members of the Board, Dr. Duquet, of Long Pointe Asylum, impressed upon the other members the danger of permitting their continuance, and pointed out that several European governments had found it necessary to interdict this pernicious practice.

The *Montreal Gazette*, commenting on the subject, gives to the Canadian public a very correct presentation of the possible perils to the public and the individual by public and promiscuous hypnotization as well as the attitude of authority on the subject, which we regret we have not space to quote in full.

*Dr. Bernheim's Views of Hypnotism.*—About this time last year the *hypnotique savant* of the school of Nancy made a very satisfactory demonstration of his peculiar views. His demonstrations were made at L'Hotel Dieu, in the presence of the medical staff, the principal judges *de l'Instruction*, M. Dumas fils and others.

None of the patients knew anything of Bernheim nor had any idea why he came among them. Each set was



taken in a different ward from the other. The Nancy scientist made suggestions to patients in a state of natural sleep, and then to waking ones. Without trying to hypnotize them he was able to strike them dumb, to paralyze their limbs, to make them weep, go into fits of laughter. What chiefly interested the legal part of the audience was the evidence the subjects gave as to imaginary events in which belief was suggested. They were circumstantial, consistent and not to be shaken. Dr. Bernheim's power has, however, decided limits. It has no action on persons in a thoroughly healthy state.

**Syr. Hypophos. Fellows.**—Mr. Fellows of hypophosphite fame, takes the opportunity to thank the profession for their recognition of his invention and to remind it that with its increasing favor there has been a corresponding increase of imitations, which, though appreciated as a compliment in the sense that "only the best things are worth counterfeiting," yet Mr. Fellows requests the profession to guard against the misleading advertisements and fictitious compounds of imitators, and gives the following:

*Safeguards against substitution.*—Fellows' Hypophosphites is dispensed in bottles containing 15 oz. by measure—the address, Fellows & Co., St. John, N. B., blown on—the name, J. I. Fellows, St. John, N. B., in watermark upon the yellow wrapper; it is hermetically corked, and sealed with crimson capping; is heavy, slightly alkaline, has a pleasantly bitter taste, and deposits a flocculent brown precipitate of hypophosphite of manganese when left undisturbed for forty-eight hours.

NOTE.—Though this precipitate mars the appearance, its presence has been found imperative to its full remedial effect.

JAMES I. FELLOWS, Chemist,  
48 Vesey Street, New York.

**Mary Anderson's Insane Lover.**—James Dougherty, the insane lover of Mary Anderson, who shot and killed Dr. Lloyd the physician at the Flatbush Insane Asylum, was, on February 24th, sentenced to Sing-Sing State Prison, New York, for life. The lunacy commission in Dougherty's case reported that while he was conscious of the nature and character of his act, he was, nevertheless, insane and subject to delusions. They said he was the most dangerous lunatic they had ever seen. Dougherty read a long statement to the court, claiming that he was justified in shooting Dr. Lloyd.

This man will be placed in the insane department of the penitentiary, but it is scarcely just to attach the stigma of crime to unavoidable disease; notwithstanding, such morbid individuals should be restrained by law and placed where they will be harmless.

**The Mississippi Valley Medical Association** will hold its Seventeenth Annual Session at St. Louis, on Wednesday, Thursday and Friday, October 14, 15 and 16, 1891. A large attendance, a valuable programme and a good time are expected. The members of the medical profession are respectfully invited to attend.

C. H. HUGHES, M. D., President,  
500 N. Jefferson ave., St. Louis.  
E. S. McKEE, M. D., Secretary,  
57 West Seventh st., Cincinnati,  
I. N. LOVE, M. D., Chair. Com. of Arrgt.  
301 N. Grand ave., St. Louis.

**A Suggestion for Tableaux.**—A very successful tableau entertainment was recently given in New York, the subjects being taken from illustrations in the current magazines. The idea is a simple one, and if the subjects are well chosen it can be made very interesting.

The Century Company has prepared a list of suitable pictures with suggestions for anyone who wishes to get up the entertainment. They will send it free on request.

**The State's Protection for the Victims of Chronic Alcoholism.**—The International Congress of Psychology, which convened at Paris last August, unanimously held that governments should be called upon to more thoroughly protect society against criminal dipsomaniacs, and to erect special asylums for the treatment of habitual drunkenness.

We call upon the State with the voice of science as well as humanity and justice, to care for its victims of chronic alcoholism; for whether inebriety be regarded *ab initio* as a vice or disease (and it is, in its inception, either one or the other or both, according to the constitutional heredity of its victim) every consideration prompts to measures for its restriction and the rescuing of its victims. The mistaken sense of security that leads one man after long indulgence to final inebriety, or the hereditary neuropathic instability that makes a hopeless drunkard out of another, after a few convivial drinks or a physician's prescription

containing alcohol, alike demand the sympathetic consideration of the State. Political economy, prudence and justice as well as moral right, which commonwealths cannot safely ignore, reinforce our plea for an inebriate asylum and wise laws of commitment and detention.

We commend to Governor Francis and the Legislature of Missouri the example of the Legislature and statutes of Connecticut on this subject.

**Peripheral Neuritis** due to a dissecting-wound on the left forefinger, received in December, is said to have been the cause of the death of Dr. Wm. Henry Stephens, of Brooklyn, last February. January 23d he assisted in an autopsy on the body of a patient who had died of hydrophobia, in New York. To avoid any risk of contracting this latter disease, he was inoculated by Dr. Paul Gibier, of the Pasteur Institute, this treatment being completed on February 9th.

Dr. Stephens was a graduate of Williams College, of the class of 1879, and received his medical degree from the College of Physicians and Surgeons of New York. Previous to his settling in Brooklyn, he had practiced for six years in Wyoming.

**Congress of American Physicians and Surgeons.**—The meeting of the Congress of American Physicians and Surgeons will be held in Washington, from 3 to 6 p. m., September 22nd, 23d, 24th and 25th., 1891. William Pepper, chairman of the Executive Committee.

**The Mattison Prize.**—*Opium Addiction as Related to Renal Disease. A Prize of four hundred dollars.*—With the object of advancing scientific study and settling a now mooted question, Dr. J. B. Mattison, of Brooklyn, offers a prize of \$400 for the best paper on "Opium Addiction as Related to Renal Disease," based upon these queries :

Will the habitual use of opium, in any form, produce organic renal disease?

If so, what lesion is most likely?

What is the rationale?

The contest is to be open for two years from Dec. 1, 1890, to either sex, and any school or language.

The prize paper is to belong to the American Association for the Cure of Inebriety, and be published in a

New York medical journal, *Brooklyn Medical Journal*, and *Journal of Inebriety*.

Other papers presented are to be published in some leading medical journal, as their authors may select.

All papers are to be in possession of the Chairman of Award Committee, on or before January 1, 1893.

The Committee of Award will consist of Dr. Alfred L. Loomis, Pres. N. Y. Acad. of Medicine, Chairman; Drs. H. F. Formad, Phila.; Ezra H. Wilson, Brooklyn; Geo. F. Shrady, and Jos H. Raymond, editor *Brooklyn Med. Journal*.

**Rationale of Extension of the Spine.**—In the *Medical Mirror* for May, 1890, Dr. G. Frank Lydston, of Chicago, offers an ingenious and logical theory in explanation of the action of extension of the spine in the treatment of locomotor ataxia and various other affections. He believes that none of the explanations so far advanced are sufficient to account for the benefits, temporary or otherwise, which are to be derived from spinal extension. He has observed improvement of the circulation and in the temperature of the skin while patients are under extension, and he believes these phenomena to depend, not upon the stretching of the spinal cord, either directly or indirectly through the medium of the spinal nerves, but to the increased circulation of the cord, *per se*. This increase in the blood supply of the cord he believes to be due to the aspirating effect produced by extension of the spine upon the spinal canal.

He believes that there is no question but that the spinal column may actually be lengthened by judicious extension. This lengthening, in his opinion, cannot possibly exert a stretching effect upon the spinal cord or its nerves. There is, however, incidental to extension, an increase in the capacity of the spinal canal proportionate to the increase in the length of the spinal column. This increase in the length of the canal, according to the author, must necessarily result in an aspirating effect upon the structures contained in the canal. The result of this aspiration is a diminished *vis a fronte* and an increased *vis a tergo* of the circulation. The result is quite natural—an active determination of blood to the cord, and an improvement in its nutrition. Extension by the Sayre apparatus, Dr. Lydston does not believe to be safe, and he advocates the use of an apparatus devised by Dr.

Charles F. Stillman, of Chicago, by which anterior and posterior curvature of the spine is produced while extension is being made. He also advocates the use of electricity, massage, etc., while the patient is upon the extension apparatus. This method he believes to be perfectly safe and highly beneficial. It is especially applicable to cases of locomotor ataxia and spinal irritation.

**Partial Spinal Amnesia.**—Astasia and Abasia constitutes the caption of a paper read before the New York Neurological Society by Dr. Græme M. Hammond, and published in the *New York Medical Record* for February 28th of the present year, in which the author describes symptoms similar to those of partial spinal amnesia, as collected and described by Prof. Salemi-Pace. In the *ALIENIST AND NEUROLOGIST* for April, 1890, Blocq, of Paris, first applied these terms to disease, and the reader will find a record of a dozen or more instructive cases of this interesting condition of partial spinal paralysis collected from various sources in the valuable paper of Salemi-Pace's, above referred to. He will also find a cursory record of a case occurring in our own practice.

**Neuroses of the Genito-Urinary Apparatus.**—At a recent meeting of the Chicago Academy of Medicine, the *Medical and Surgical Reporter* thus comments upon an address made by Dr. G. Frank Lydston, in regard to genito-urinary neuroses, in which he very properly limited the term to cases of purely functional derangement of the genito-urinary organs dependent upon pathological conditions of neighboring organs and conditions—probably of a spasmodic character—immediately dependent upon organic lesions of some portion of the genito-urinary tract itself. There are few morbid conditions of a functional character which are so trying to the patient or so embarrassing to the surgeon, and in the experience of physicians it is found that they are apt to be more often consulted regarding these functional nervous derangements than for the actual diseases upon which they depend. In view of the vast amount of labor and talent that has been devoted to the study of the reflex neuroses of women incidental to pathological conditions of the uterus and its adnexa, it is, as Dr. Lydston said, surprising that more attention has not been given to analogous conditions in the male, due to disturbances of the generative organs, and especially of the urethra.



Taking as the point of departure the prostate, there will be found a close similarity between some of the morbid states affecting it and certain pathological conditions of the uterus. Anatomically and physiologically the prostate strongly resembles the uterus. The tendency of its muscular tissue to undergo degeneration and to form fibro-myomatous growths is strikingly like that observed in the case of the uterus. It will be found that certain remedies which have a marked action upon the unstriated muscular fiber of the uterus have a somewhat similar action upon the prostate, this being especially true of the ergots of rye and corn and hamamelis. Certain sedative remedies have a special controlling effect upon irritative affections of the uterus, ovaries and prostate alike. Carrying the argument a little further, it will be found that certain irritations of the prostate produce effects very like that induced by utero-ovarian irritation in women. False spermatorrhea—spermatophobia—pseudo-impotency involving disgust for the sexual act, melancholia, hypochondria, neuralgias whether of contiguous or remote nervous filaments and nervous inhibition, amounting almost to complete paralysis, are all possible results of urethral or prostatic irritation, and these conditions are all represented by very similar disturbances, such as hysteria and its congeners in the female, due to morbid conditions of the generative organs.

One of the interesting features of stricture of the urethra is the *ensemble* of symptoms of a nervous character that is so often seen, these neuroses being often entirely disproportionate to the degree of organic trouble present. Cephalalgia, neuralgia in various localities, particularly sciatica, lumbar and intercostal neuralgia, are quite common, but are probably regarded by both physician and patient as coincidences rather than as bearing any consequential relation to the stricture. Associated with these symptoms are others, quite as prominent in some cases, of a purely mental character, such as melancholia, disturbed sleep, hypochondria, incapacity for intellectual effort and deterioration of business capacity, perhaps associated with great irritability of temper. Disturbed digestion and general impairment of nutrition are quite constant. That these various abnormal conditions depend upon the stricture, Dr. Lydston said, is never appreciated fully until that organic disease is cured, when the complete restoration to health demonstrates their true



relation to the primary source of irritation. Some cases of gleet are associated with considerable mental depression, which is commonly ascribed to the moral effect and the supposed drain upon the system. This lack of mental equilibrium may arise from reflex irritation through the sympathetic system, which is so closely allied with the functions and nutrition of the sexual organs. Morbid conditions of the urethra not only cause reflex neuroses in other portions of the body, but they are frequently the reflex result of disease of contiguous strictures. Thus Dr. Lydston has noted cases of spasmodic stricture depend upon hernia and varicocele, and Dr. Otis has described some very interesting cases of chronic spasmodic stricture of reflex origin. Operations about the anus are frequently followed by spasmodic stricture and consequent urinary retention and morbid conditions of the interior portion of the urethra, often cause reflex disturbances of the deeper portion of the canal or indeed of the bladder. This is very familiar in connection with the results of contraction of the meatus.

These remarks of Dr. Lydston, who has made a special study of the subject of which he speaks, may well attract attention. In one sense it can hardly be said that the remote effects of disturbances of the genito-urinary apparatus have been neglected, for many quacks have dwelt upon them too much to their own advantage. But it is true that the nervous derangement due to disturbances or disease of the genito-urinary apparatus of men have not been studied as thoroughly and as systematically as their congeners in women have been, and it may be well to have this point impressed upon physicians, so that some of the zeal now perhaps needlessly spent upon the genitalia of women may be directed to recognizing and curing the ailments of the sterner sex.

**A Commendable Plan.**—The Trustees of the Sheppard Asylum have adopted a plan for securing a Superintendent which is worthy of commendation. If their example were emulated by other institutions the asylum service would be signally benefited. The plan is apparent in the following letter:

BALTIMORE, December 9, 1890

CHARLES H. HUGHES, M. D., ST. LOUIS, MO.

*Dear Sir:*—The Sheppard Asylum buildings are approaching completion. The Trustees now desire to select a Superintendent in the

near future, in order to avail of his experience and judgment in forming a plan of organization for its operation; and in the selection of water fixtures, closets, lights, furniture, etc.; as well as to afford him ample time to look around for such assistants, nurses and attendants as he may require.

Under general control of the Trustees, he will be Executive Manager of the whole institution, besides having medical charge of the patients.

The farm, 377 acres of diversified surface, partly wooded, with several running streams and many fine springs, is susceptible of large development for the uses of the institution.

The Trustees will be obliged if you will name to them for their consideration one or more physicians of experience in the care of the insane, whom you judge competent to fill the position.

Very respectfully yours,

GEO. A. POPE, President  
"Trustees of the Sheppard Asylum."

This is business! This is wisdom! This is justice to the patients! It is a tribute to experience and a recognition of the trite truth that practice makes perfect and professional competency inspires confidence. The superintendent recently elected on this plan, Dr. E. N. Brush, is a gentleman well known to the specialty, who will worthily fill the position. We congratulate Sheppard Asylum on the judicious selection.

**The Forty-fifth Annual Meeting of the Association of Medical Superintendents of American Institutions for the Insane** will be held at the "Arlington House," in the city of Washington, D. C. The sessions will commence at 10 A. M., of April 28, 1891.

The members are earnestly requested to be present at the opening meeting and arrange to remain until the close of the sessions.

The trustees of the different hospitals are respectfully invited to attend the meetings. The list of members will be sent as soon as it can be carefully compiled.

**The Tardy and Non-Recognition of Nervous Affections by the Profession.**—The fact set forth in the caption is often painfully impressed upon the minds of alienists and neurologists in the study of their cases. In my own practice, at least, it is a frequent, almost daily occurrence, to be called upon to diagnose and treat cases which, having been long treated for this or that special organic disease, have finally left their

medical adviser to seek advice and relief, which they had sought in vain of their family physician. When such cases finally forsake their family physician of their own accord, or through advice of someone who thinks he or she has been similarly afflicted and found relief at the hands of a neurologist or alienist, it greatly impairs the patient's confidence in his or her physician.

It often avails little to remind the patient that the field of medical practice is larger, and the failure to recognize an obscure nervous affection or the incipient symptoms of a grave one impending, does not indicate general incompetency, when so much is still obscure in neuro-diagnosis. Such argument is usually met with the rejoinder that a family doctor should know what he could and what he could not treat and should at least be able to advise a patient to go elsewhere for the relief he could not give, in time for benefit, a position which is only partly true, for even the best men may misconceive the significance of certain morbid phenomena. Nevertheless it is a fact that the success of the general practitioner in retaining his practice is coming more and more to depend upon the breadth and range of his medical knowledge, and upon the judgment with which he uses his experience. He is no longer expected to treat everything, though he is expected to know something of every disease, and how and when it may possibly be benefited if beyond his own resources of relief. He is expected, in surgical cases, for instance, to decide when operative interference is needed or at least when the experienced judgment of another more specially informed may benefit his patient, even though he be not expected to perform surgical operations of magnitude. This is his duty and province as medical adviser in addition to that of mere doctor. The same is true in regard to problems concerning measures for the management of the eye and ear, the throat and nose, the pharynx, the heart, the chest, and even in regard to the genito-urinary organs, as well as the brain, spinal cord and nervous system generally, so that the timely summoning of consultants in these departments and the transfer of certain cases to them, will alone save a good practice, for any considerable length of time to the general practitioner.

What Seguin has recently so forcibly, in an address before the Presidents' Medical Association, Dec. 9th, 1890, said concerning the passive form of general paralysis or

dementia paralytica, namely, that "it is often seen by the general practitioner at its earlier stages and the gravity of the symptoms is almost never appreciated, and even by neurologists the diagnosis of nervous prostration or cerebral fatigue is often made and a delusive prognosis given," is also too true not only of this disease but many other forms of insanity in their incubating states, especially of melancholia attonita and melancholia agitata in the earlier stages. The term neurasthenia often causes a vast amount of ignorance in early neuro-diagnosis. It is the preferred term of the ignorant and the hopeful in prognosis.

I have known of grave head troubles treated by routine applications to the ears, and organic disease of the brain treated ophthalmologically until sight was lost through neglect of a central trouble regarded and treated simply as neurasthenia. I have known a fatal cerebral abscess to be regarded and treated as hysteria, only because it excited concomitant hysterical manifestations. Grave states of insanity, too, have been many times to my knowledge classed and treated as hysterical perversions by physicians who could not differentiate between the lighter phenomena of functional hysteria and the grave physical condition of hysterical mania, melancholia and acute dementia.

In harmony with this view, the subject of hysteria, its grave accompaniments and the unfortunate use and masking effect of the term when the most serious pathological conditions co-exist.

Dr. E. H. Root, Professor of Hygiene and Medical Jurisprudence in the Woman's Medical College of Chicago, discusses "Hysteria as a Symptom of Serious Lesion" and gives a report of cases. The paper was read before the Pathological Society, in September of last year. This writer truly says:

The true and often serious nature of disease is often overlooked when its existence is manifested under the mask of hysterical phenomena.

He reports the following cases which came under his observation and confesses that they taught him a valuable lesson:

CASE 1.—Mrs. A., married, aged 30 years, the mother of two children, girls; she came of a neurotic family, members of which had been insane. Her general health was good during girlhood, and during

married life until she became the victim of amenorrhea, some ten or twelve months prior to her death, when she became markedly hysterical. She was passive in mind and in body. "I can't" seemed to have taken possession of her.

She slept fairly well; appetite was variable; constipation stubborn; mental operations, when performed, normal. The patient was forgetful, and complained of confusion of ideas that made no outward sign.

When he first saw the patient, she had been in this condition about four months, growing gradually thinner in flesh. She had taken to her bed, shut out the light and warm summer air from her room, and if approached by a stranger, or suddenly by a member of the family, the pupils would dilate widely and respiration quicken almost to panting.

On examination he found the circulation poor; the lips and mucous membranes cyanotic, although no heart or lung lesions were discernible. There was pain and a "dragging weight," in the loins, but on examining the pelvis he found nothing to warrant the pain except passive congestion that seemed general.

The spine presented tender points over the dorsal andilio-cervical regions. Charcot's "hysterical tripod," was very marked.

After six or eight weeks she showed marked improvement; had gained in flesh and cheerfulness, and began taking an interest in things about her. In twelve or thirteen weeks the menstrual flow returned, and continued regular until the time of her death. She went about her household duties, seemed happy and restored to health.

Matters went on smoothly until the following summer, in August, when during a menstrual period she swallowed a quantity of corrosive sublimate in solution. Since her apparent restoration to health, no one had noticed anything about her to cause apprehension, not even the hysterical manifestations that had characterized the first of her illness. Her act of self-destruction was a surprise and shock to everyone who knew her.

The second day after the poisoning he saw her again; she seemed perfectly rational, but manifested the same hysterical symptoms observed a year before at his first visit. When asked why she took the poison she replied: "I don't know. I felt that I *must* do it. I was sorry the minute after. Do you think I will get well?" She said this with pupils widely dilated, respirations



quick and fast, and a nervous tremor in the alæ nasi and the muscles of the face.

She died on the eleventh day after taking the poison. Hysterical symptoms, and they only, presented themselves during this last illness; but behind them were the metallic breath, diarrhea, passive hemorrhage of the bowels and retention of albuminous urine, indicating the profound impression the poison had made upon the system. My associate in the case believed my apprehension of grave results unfounded, because the patient was "hysterical."

It is stated that hysterical patients never do themselves bodily harm, yet here is a case diagnosed *hysteria* by two physicians in active practice. While I had recognized the hysterical features of the case, I believed and still believe, the patient was *insane*.

CASE 2.—Mrs. B., a young widow, aged 20; blonde; single; occupation nothing, or what it suited her whim to do. Intelligence barely average; complexion pale; neurotic; if crossed at any time, hysterics or an outburst of temper was the result. Family history uncertain as to the existence of neuroses. She began showing a mental bias by "acting queer." She rapidly grew worse, refusing food, crying and wandering about her room, chattering constantly.

*Hysterical mania* was the diagnosis made, and treatment in a hospital for the insane recommended. This continued for ten days, when a change seemed to take place. She was fed with less difficulty, and seemed to make an effort to think. She seemed to be greatly troubled over her mental inabilities, and would cry because she could not rightly say what she wanted to. On the day set for her removal to an asylum, her mental condition seemed altered so much for the better that it was postponed. On the eleventh or twelfth day her mind seemed in its usual health; pallor extreme; the patient was greatly prostrated, and content to stay in bed. A rise of temperature occurred, and the case proceeded through a typical course of typhoid fever, and recovered with no remaining unpleasant symptoms.

CASE 3.—Miss C., aged 24 years, single; a farmer's daughter; intelligent; faithful in performing duties assigned her. Her sympathetic nature was strong, and when forcibly appealed to made a profound impression upon her physical health. Tender points extended over the entire length of the spine on each side to the sacrum. Charcot's tripod was very marked on pressure, and pain was nearly always present. The patient suffered from pain in the spine—in fact, from pain all over



the body—peripheral nerve pain; nausea and vomiting, with pelvic pain accompanying the menstrual flow, that local conditions did not warrant.

Her body seemed, when she came under the doctor's observation, completely controlled by a perverted spinal and sympathetic nerve-system over-riding the inhibitory and reasoning control of the brain centers.

Previous to my knowledge of her she had met with a serious disappointment in life, that seemed to be largely responsible for the sad inroads made upon a naturally neurotic nature. She grew thin in flesh; and the doctor began to fear that tuberculosis would in all probability close the scene.

In June last (1890) she was attacked with a severe sore throat which it was feared was diphtheritic. The thick exudate cleared off, leaving a red but unbroken base. For a time the idea of diphtheria was lost sight of. On the third day after the soreness of the throat appeared she began to manifest delirium decidedly hysterical in character. Counsel pronounced it a case of "hysterical mania." Nausea and vomiting of a most distressing character set in. Rectal feeding, and the mere suggestion of food, would produce uncontrollable emesis. She finally locked her teeth against all food and attempts to examine the throat.

For ten days and nights the physicians fought what seemed inevitable starvation. The temperature was sometimes below normal, 97°F., and never above 101° F. About the tenth day the patient became more passive, the face showed great depression, and the jaw relaxed sufficiently to allow examination of the throat. Diphtheritic membrane, the presence of which had been suspected, was spread over the tonsils and fauces. During the course of the disease this spread to the nose and to the inner canthus of right eye. The larynx, dorsum of the tongue with its frænum, as well as the lips and buccal surfaces became involved.

After three weeks the patient's mind became again clear, but all force of will-power was lost. Rectal feeding and medication was employed, little entering the mouth except local applications that had to be used with caution and often sparingly. Complete anorexia prevailed. After all diphtheritic exudate had ceased to form, so far as could be determined, the body temperature continued at 100° to 101.5° F. Albumen appeared in scanty urine,

which was readily overcome by small doses of citrate of lithia.

A hacking cough developed and gradually wasting ensued, nausea and vomiting still persisting though not so severe as formerly. Four weeks she lingered, and then died greatly emaciated. The failure to procure a *post-mortem* examination left the hypothesis of tuberculosis undetermined.

*Per contra*, we may also quote the following from *Centralbl. f. Chir.*, Vol. 13, No. 16, 1886 (Schmidt's *Jarbucher*, No. 6, 1886:

A CASE reported by Dr. G. Zesas, of a robust young woman, 18 years of age, who had complained for six months of severe attacks of pain in the left knee-joint. These attacks were worse of evenings. Careful examination of the joint revealed no disorder. The diagnosis placed the case among the joint neuroses. Such treatment as was adopted, failed to benefit the patient and a year and a-half after the beginning of the pain in the joint, the most careful examination of the same revealed nothing unusual. But two years later, the joint began to swell, became very sensitive, the leg was flexed at the knee, and very soon there was a most pronounced "white swelling" (or osteo-myelitis), that required operation. The author makes this case the occasion for cautioning physicians and surgeons against hasty diagnoses, which usually result in crediting such a case solely to hysteria. According to Volkmann, of Halle, years may pass after the beginning of tubercular disease in the depths of a bone, more particularly in the heads of the long bones, before tubercular disease in the same may declare its presence by unmistakable external signs. We have known more than one case of this kind, in one of which, at least, guided by an erroneous diagnosis, a very unjust attitude was assumed toward the sufferer, that was painful in the extreme in its after history.

A volume might be written and read with profit from wide professional experience on this subject, had we the time to compile even the facts of our own observation. Hysteria is a mantle which has covered a multitude of diagnostic sins and enshrouded many a hapless victim for the tomb. The profoundly hysterical subject may display her malady under the slightest of provocative influences, but, on the other hand it may be both slightly and gravely displayed under the disturbing neuropathic influence of serious and even fatal disease. To find hysteria does justify the finding—nothing else. Such a finding may be false and fatal. A neuropathic aptitude for hysterical display may co-exist and be brought into active manifestation under the slightest or the gravest pathological provocation.

**Visit The Sheppard Asylum, Baltimore.—**

The trustees of this institution have, in the following circular, invited the Medical Superintendents of American Insane Asylums, to visit the asylum at the close of their annual meeting:

OFFICE OF THE TRUSTEES OF THE SHEPPARD ASYLUM,  
BALTIMORE, March 5th, 1891.

The trustees having learned of the annual meeting of the Medical Superintendents of American Institutions for the Insane, to be held in the City of Washington, D. C., on the 28th of April next, desire to invite the members who may attend it, to visit our asylum on the conclusion of its sittings.

They hope you will make arrangements to join with others in this visit to us.

Details as to date, travel, etc., will be announced at the Association's meeting.

Very truly yours, etc.,

GEO. A. POPE, *President.*

**The American Neurological Association.—**

The Council of the American Neurological Association have decided that the Seventeenth Annual Meeting of the Association will be held at Washington, D. C., in connection with the Congress of American Physicians and Surgeons, on Tuesday, Wednesday and Thursday, September 22d, 23d and 24th, 1891.

There will be two daily sessions, one from 10 A. M. to 12 M., the other from 1 P. M. to 3 P. M. This arrangement of the sessions has been made so as not to conflict with the meetings of the Congress which are to be called each day at 3 P. M.

You are earnestly requested by the Council to contribute to the success of the meeting by the presentation of a written communication, pathological specimens or microscopical specimens.

DR. C. M. HAMMOND,  
Secretary, 58 W. 45th St., N. Y.

**"Let Us Reason Together,"** is the very appropriate caption of a fraternally-spirited and meritorious editorial in the *New York Medical Times* of the present month. Doctors Guernsey and Mills are on the track that may lead to ultimate unity among reputable physicians.

A man may be educated in medical as in ecclesiastical dogma. There may be truth in it. Dogmas in medicine or theology are seldom wholly erroneous—and they are seldom all the truth—he may widen as experience broadens. He may expand until exclusive sectarianism

cannot longer hold him. He then belongs to a sect no longer, but to the profession of medicine. But if he uses the sectarian designation which he has outgrown, as a trade-mark for business success, he cannot expect general professional recognition, and he is dishonest with the public, untrue to his own manhood, and to a great and true profession. The *Times* talks much like a regular, and we quote with approbation the conclusion of its article, captioned as above :

The question with the *Times* is not one of affiliation with any school any further than they maintain the principles of medical liberty, of scientific progress and of equal justice to all. The *Times* has nothing to conceal; it believes in the unity of the profession, but only upon the ground of that mutual toleration and respect, the outgrowth of earnest work in a profession, which no one dogma fitly represents. No one has fought more earnestly for medical liberty and for medical progress than the *Times*, and while it would gladly see all ranks of the profession more closely united and working more in harmony, it holds with a grasp of steel to essentials, to principles and work which have stood the test of time and the scrutiny of experience and scientific investigation, but is always willing to discard non-essentials if they stand as a stumbling-block in the way of progress. At the commencement of a new year of publication, the *Times* urges upon everyone of its readers to see if there is no little mote of prejudice, of intolerance and obstinacy in his own eye, and, if so, to pluck it out that it may see with clearer vision the world of truth around us.

**Our Relation Towards Italy.**—Though this is not a medical theme, it is a subject that interests medical men, for the profession of Modern Italy has the respect and esteem of American physicians, and the light reflected from its glorious past still illumines the world, both in literature and science. The world will never forget or cease to feel the beneficial influence of Padua or Palermo, nor will it ever blot out the remembrance of that sublime son of Italy's soil, whose honored ashes rest 'neath Posilippo's Hill on the brow of Naples. The memory of Virgil and the glories of the *Aeneid* belong to the world, and Americans are proud for a common humanity's sake, of Italy's glories. There is no prejudice in this country towards the true sons of that fair clime. The *Mafias* are not the *Humberts* and *Garibaldis*, nor are the organ-grinders and banana-peddlers of our city streets fair samples of Italy's nobler sons. America may not tolerate Italian *Mafia*, as she would not tolerate such among her own native-born sons—but she does not class Italians generally with such people.

## HOSPITAL NOTES.

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NORTHERN MICHIGAN ASYLUM, TRAVERSE CITY.—Biennial Report for the years 1889-1890.—This report, as is generally the case with reports of the Michigan Asylums, is both a valuable and interesting document.

The total number of patients under treatment during the time covered by the report was 902. Number received during the same period 346, of which 203 were males and 143 females. Death rate was 4.4 and 4.3 per cent. for the two years respectively. Total number discharged 215.

The hospital has been improved by the erection of two infirmaries, one for each sex, which are connected with the main building by covered passages. Besides the main building and infirmaries two cottages have been erected, which are occupied by male patients.

The records of autopsies and the short *résumé* of the various forms of insanity, together with cases illustrative of them, are valuable features of the report. A scheme for classification, modified from Krafft-Ebing, occupies a page, and is a good hint to other institutions, as it would be a most desirable addition to reports of our institutions for the insane to have a uniform classification. It would add much to the value of the statistical tables. The present system shows an utter lack of uniformity. An interesting note in the report of the Board of Trustees is the following:

"Between 1870 and 1880 there was an increase of insanity over the growth of population, of about 200 per cent., while from 1880 to 1889, under compulsory commitment to our asylums, notwithstanding every type of mental disease has been treated, the net increase of insanity will probably not exceed 7 per cent., while the growth of population during that period, will at least in this district exceed 25 per cent."

A recommendation is made by the trustees to establish a library (medical) in the asylum, which shall contain the current medical literature and be maintained by the State.

The report contains some well-executed photogravures of the asylum buildings, which add greatly to its merit.



The medical staff consists of Dr. James D. Munson, superintendent, an assistant superintendent and three assistant physicians. E. R. T.

DANVILLE (PA.) STATE HOSPITAL FOR THE INSANE.—Biennial Report, ending Sept. 30th, 1890.

Number of patients in the hospital, Sept. 30th, 1889, 888. Admitted during first year covered by the report (88-89,) males 138, females 90, total 228. Whole number under treatment 1,093. Percentage of deaths on whole number 7.41.

Whole number in the hospital Sept. 30th, 1890, 967. Admitted during the year, males 152, females 100, total 252. Total number under treatment 1,140. Death rate 6.14 per cent. During first year 43 were discharged restored and during the second year 56. Remaining Sept. 30th, 1890, 967.

The trustees urge the necessity of immediate measures for the relief of the crowded condition of the institution, especially the male wards, and have presented a bill to the Legislature asking for an appropriation for the erection of a building to accommodate 300 male patients. The original building was intended for 700 inmates, 350 of either sex, and it is now filled far beyond this number.

Dr. Schultz mentions the delay in bringing patients to the hospital after the onset of the disease, and urges more prompt action in this particular.

During the summer of 1889 the hospital was visited by an epidemic of acute dysentery and about 12 per cent. of the population were affected.

Religious services, consisting of scripture reading, singing and prayer, are held each evening in the chapel, and from 580 to 600 patients attend, while every Sunday afternoon regular service is held.

Instruction has been given to the attendants, with special reference to the care of the insane.

The medical staff consists of Dr. S. S. Schultz, superintendent, and four assistant physicians. G. R. T.

REPORT OF THE COMMISSIONERS FOR ADDITIONAL HOSPITALS FOR THE INSANE IN INDIANA, 1883-1890.—Indiana is to be congratulated on having three new and substantial hospitals for the care of the insane. Each is constructed on a different plan from the others, and all show a



care and consideration in construction which reflects credit on the commissioners, and will add very materially to the comfort and treatment of the insane of that State.

The Northern Hospital at Logansport and the Eastern Hospital at Richmond, are built on the "detached building" plan, the buildings of the former being arranged in a line on either side of an administration building and having the engine-house and out-buildings in the rear, while those of the latter are placed about a large quadrangle laid out as a lawn and planted with trees, the rear of the buildings being toward this space. The architecture of these structures differs very considerably and many must have a very attractive appearance. The great point gained by this, is the relief of the monotony which is a feature of most hospitals built before the idea of "detached buildings" was considered.

The third of these hospitals, situated at Evansville, and designated as the "Southern Hospital for the Insane," has a style of architecture peculiar to itself and consists of a center building with ward buildings, four in number, radiating from it. This building I think has its advantages and also its disadvantages, but it is a new departure and reports of its operation and success should be looked for with interest. The commissioners, architects, contractors, in short, everybody connected with the erection of these hospitals have labored under great disadvantages on account of the lack of funds needful for the work, and are to be congratulated for their untiring energy and zeal in pushing forward when hampered by such an obstacle. Indiana should not let the want of funds stand between her and the insane dependent upon her for care and treatment.

G. R. T.

NORTHERN INDIANA HOSPITAL FOR INSANE, NEAR LOGANSPORT.—Biennial Report of Trustees and Medical Superintendent for period ending Oct. 31, 1890. Number of patients in hospital Oct. 31, 1888: males 176, females 116, total 292. Admitted during year, males 107, females 112, total 219. Discharged restored, males 42, females 30, total 72.

Ratio of deaths to cases treated for year 6.6 per cent.

Number of patients in hospital Oct. 31, 1889, males 192, females 177, total 369. Admitted, males 117, females 67, total 184. Discharged restored, males 29, females 30, total 59. Death rate 4.1 per cent. Remaining in

hospital Oct. 31, 1890, males 207, females 120, total 327. It is to be regretted that the hospital, through its superintendent, has found it necessary on one occasion to borrow funds at a high rate of interest to meet its monthly pay roll, and on the following month the payment of officers and employes was postponed probably for the same reason. The Deficiency Act of March 11th, 1889, very greatly handicapped the operations of the hospital, the act of this date requiring the boards of trustees for insane hospitals to inquire into the financial condition of every patient admitted, in order if possible to reimburse the State treasury with amounts equal to those used in the support and treatment of these people while resident in the hospital, is not quite up to the standard of most States in the care of their insane. If Indiana cannot afford to support the indigent insane without taking what little they may possibly possess, it is high time that a new code of morals and ethics be adopted. Even if a patient were discharged restored, it might have been at the expense of the small amount of this world's goods which he possessed, and certainly this would in a number of cases be the ground for another attack of insanity.

The superintendent recommends that, on account of the crowded condition of the hospital, power be vested in him, "to discharge harmless custodial cases to their homes or county care, whenever needful to make room for recent and presumably curable cases." This question has been discussed by the authorities of various States at such length that it is needless to consider it here. Suffice it to say that one and all have agreed that indigent insane should be in custody of the State.

It is a pity for Indiana that we have not another Miss Dix to "show them the way." The medical staff of the Northern Hospital consists of Dr. Jos. G. Rogers, superintendent, and two assistant physicians. G. R. T.

KANSAS STATE INSANE ASYLUM AT OSSAWATOMIE.—Seventh Biennial Report for period ending June 30, 1890. Total number on record for two years, 782; discharged as restored, 95. The hospital is in a very crowded condition, and both trustees and superintendent recommend additional buildings. The medical staff consists of Dr. A. H. Knapp, superintendent, and two assistant physicians. G. R. T.

NORTHERN HOSPITAL FOR THE INSANE, WINNEBAGO, WIS.—Fourth Biennial Report admitted since last report, 758. Of total number under treatment during this period 164 were discharged restored and 129 died. Percentage of recoveries upon admissions, 217; percentage of deaths, 17. Population of Hospital, September, 30, 1890, 605.

Considerable improvement has been made during the past two years, both on grounds and buildings. Mechanical restraint is rarely used, and only on the order of a medical officer. From 75 to 80 per cent. of the patients, are employed in various ways about the buildings and grounds. The medical staff consists of Dr. Charles E. Booth, superintendent, and two assistant physicians.

G. R. T.

ST. LAWRENCE HOSPITAL.—Third Annual Report. New York State deserves credit for the erection of one of the most complete institutions yet built for the care of her insane. A plan has been devised and executed whereby all classes of insane can be cared for at a low *per capita* rate, and yet provision is made for a separation of the various classes of the chronic, acute, violent, etc., so that though accommodation is made for all, the indiscriminate mingling, which is a feature of most hospitals, is avoided. It is the result of the work of a careful and painstaking architect, assisted by the advice and suggestions of men acquainted with the needs of the insane, and it will always be a monument of their zeal and labor in behalf of this unfortunate class of society. The hospital is situated on "Point Airy," on the banks of the St. Lawrence river, about three miles from the city of Ogdensburgh, and just at the head of the Galoup rapids, thus having one of the most healthful and picturesque locations in the State. The nine hundred and fifty acres, including meadowland, woodland, garden space and farm land surrounding the hospital, give ample opportunities for cultivation and landscape effects, besides good facilities for the employment of certain classes of its inmates.

This institution is in reality a combination of a "hospital" and "asylum," in that it provides for all classes. In regard to construction, it combines the ideas already advanced in the plans for institutions for the insane, though it shows modifications and changes in many respects. It is a union of the "linear" and "cottage" plans, and in all respects is an improvement on both. It shows a total

disregard for the usual regular asylum building, some attention being given to architectural effects.

The central group of buildings consists of an administration building, flanked on either side by four cottages, each being connected with the other and with the center building by means of corridors one-story high. The center building is, architecturally, a relief from the "regulation" center—it having the appearance of a large private residence. It is built of Governem marble. The first floor contains the offices, reception rooms, dispensary, etc. The second floor contains trustees' room, library, supervisor's rooms, etc. Behind the center is a building, one-story in height, the ground plan of which is the segment of a circle, which is a sun-room, and also a corridor connecting the cottages on either side of the center. In the rear, and separated at some distance from the center, are the outbuildings, kitchen, store-rooms, etc., which are connected with the center and wards by underground passages. The wards, or rather cottages, are situated on either side of the center building; those on the east being for females, and those on the west for males. The cottages adjoining the administration building are called "reception" cottages, and are intended for the reception of cases on first admission. On the first floor are the day-rooms, also the reception and sun-room. A two-story connection in the rear of the reception cottages, provides them with two hospital wards. The second story of the building contains the sleeping-rooms. Connected with the reception cottages by a corridor are the "observation cottages," or wards. These are designed for a class of patients who demand close observation and treatment before they are subjected to a final classification. The sleeping accommodations are on the second floor, and consist principally of single rooms. An efficient night service is to be on duty in these cottages. The third in the series are the cottages for convalescents, and "are intended for a class which do not require active medical care," nor as much restriction as those in the preceding buildings. These are at a considerable distance from the observation cottages, though they are connected with them by corridors. In all of these buildings the "hospital ward" is overcome as far as possible, and the buildings made attractive and home-like. Connected with the cottages for convalescents, but at a considerable distance from them, are H-shaped wards

for the noisy class. In these buildings great care has been taken to confine the noise to a small space. The windows in the bed-rooms open into small areas, so that, to a great extent, this is accomplished, and the sleep of patients in the adjoining buildings is not disturbed. Between the rooms are hollow walls. Each ward is intended for eighteen patients. This central group of buildings is arranged on the receding-front plan, and still it has the advantages of the cottage system, and from the arrangement of the buildings it will be seen that for a limited number there can be made a most satisfactory classification. The entire idea of this central group is to follow as far as practicable the "hospital plan," to the exclusion of the "asylum." When the hospital is entirely completed there will be, in addition to the "central group," groups Nos. 1, 2, 3 and building No. 4.

The first of these is intended for the feeble and helpless class of chronic insane, especially those requiring attention at night. These buildings are, for the most part, one-story high, and contain large day, dining and sleeping apartments. Attached to this group are four hospital wards for the bed-ridden of this class.

Group No. 2 is a 2-story building, designed to accommodate 185 chronics (males), who require more than ordinary care and observation. The first floor is divided into four wards, also an associate dining-room, and above this a dormitory. This building provides accommodation for a resident physician and assistant officers.

Group No. 3 is intended to accommodate 325 females. It is similar to the preceding group, but allows for a wider classification. Connected with this building are several workshops for the employment of the patients.

Group No. 4, intended for both sexes and designed for the class which are actively employed. There are two day-rooms, but the building has but one dining-hall, to be used by both sexes. In addition to these buildings, a few patients can be accommodated at farm cottage. In addition to these structures, there is a large amusement hall, which will accommodate 600 people.

All the buildings are erected with careful consideration of hygienic conditions. The central group containing the most appreciative class, occupies the most



picturesque and commanding sight, and is built facing the river.

The rules which have been considered in the erection of this building and expressed in the report of the superintendent, are:

I. No buildings for the insane should exceed two stories in height.

II. For safety from fires there should be two fire escapes from the second story in each building.

III. Buildings should be made fire-proof as far as practicable.

IV. Day-rooms should be on the ground floor, and sleeping-rooms in the second story.

V. All buildings should be capable of being heated to 70° Fah. during coldest weather.

The hospital is a most complete institution, and many years will elapse before any improvement upon it will be made.

The insane in all States demand such an institution, and when the benefits to these unfortunates, gained by such a hospital, are considered, it would be a good idea for a few more States to wake up to a sense of their obligations to humanity. The objections of the "asylum for chronic insane" is by this plan overcome.

It is urged in some States that an asylum for chronics decreases the *per capita* cost. This may be true for the chronic asylum, but if all the chronic insane are placed in one or two asylums the *per capita* cost of the others must necessarily be increased. New York has overcome this difficulty by the erection of a "combination hospital and asylum." Ample provision for all the acutely insane of St. Lawrence district, and, moreover, a safe and comfortable place for that unfortunate class who are doomed to life-long insanity. New York has solved the riddle—has evolved order from chaos, and now that a precedent and example is established, the other States should profit by it.

The *N. Y. Sun* has unfortunately compared the St. Lawrence Hospital with Gheel. Gheel is not a place for Belgium to be proud of, and though they have in part the right idea, yet they fall far short of the mark reached by the St. Lawrence Hospital.

Dr. P. M. Wise, formerly superintendent of the Willard Hospital, has been appointed superintendent of the new hospital, which at the present time is open for about



300 patients, but when completed will have accommodations for 1,500. Congratulations to New York State, and best wishes for a grand success. G. R. T.

GOVERNMENT HOSPITAL FOR THE INSANE.—Report for 1890. The hospital contains 1,505 patients. There were 140 deaths, and 345 admissions during the year.

Dr. Godding pays a high tribute to the memory of Dr. Charles H. Nichols, the first superintendent of the Government Hospital, and who died in New York in December, 1889. A handsome set of resolutions was passed by the Board of Visitors in which they testify to their appreciation of his eminent services.

Assistant physician, Samuel R. Means, who died while on duty during the year, is also most honorably mentioned by Dr. Godding. Dr. C. A. Drew, late of Taunton Asylum, Mass., has succeeded Dr. Means.

Again we have the pleasure of commending the pathological supplement of Dr. Blackburn—but before we commend it we must take some exception to it. The only exception we wish to make is, that this admirable report does not receive, as its dignity demands, a separate life of its own. To us it seems pedantic to thrust twenty-two pages of description of diseased brains upon friends of patients, Congressmen and the general public. Besides this, it seems about as appropriate to blend this matter with prices of sweet potatoes and woollen blankets as it would be to carry a lot of surgical instruments and plumber's tools in the same bag. This is all we have to say by way of disparagement—and this, we presume, is not in the province of Dr. Blackburn to correct.

The record covers the *post-mortem* examination of thirty-nine cases of epileptic insanity, twenty-two of which were cases of chronic epileptic mania, and the other seventeen of chronic epileptic dementia. There are beautifully executed "half-tone" pictures of three diseased brains. We give, in full, Dr. Blackburn's summary:

"The study of the foregoing cases of epileptic insanity was undertaken without the expectation of discovering anything special in the morbid anatomy of the disease, but rather as a study of individual cases, each possessing some interest. The thirty-nine cases here reported comprise all the examinations of epileptic insanity made since the establishment of the pathological department of the hospital.

"It will be seen that many of the gross lesions of the cranium and its contents, found in these cases, have no essential relation to the disease; are found in other forms of insanity, and, indeed, degrees of the same may be present in the sane condition. The same may be said of many histological appearances; they differ only in degree from conditions produced by normal brain-wear.

"There are, however, certain organic affections of the brain which are incompatible with mental integrity, and of these it was interesting to find several among the cases studied. In cases of meningoëncephalitis we find a direct physical cause of impairment of mind, and extensive cerebral softening is always accompanied by dementia. Some cases of each appear in the report.

"The skull was thicker than usual in twelve cases, six white, six colored; it was thinner than usual in four; exostoses of inner table in two; compressed laterally and elongated in one, and smaller than usual in five cases.

"The dura mater was more or less adherent in nearly half the cases, and showed various stages of internal pachymeningitis in five.

"The pia mater showed some opacity in fifteen cases, and the convolutions were atrophied to some degree in nearly all.

"The most common microscopical appearances were tortuosity of the vessels, perivascular hemorrhages and pigmentary and granular degeneration of the cells. Spider-cells were found in a number of cases and marked proliferation of vascular nuclei, but these were mainly in the cases of meningoëncephalitis and other like conditions.

"The brain weights averaged well; for the males in each form of insanity, it was over 46 ounces; for the females, four in number, 38 ounces.

"The specimens for microscopical examination were hardened in solutions of the chrome salts, and the older ones preserved in alcohol. Several of the more recent cases were kept in Müller's fluid for staining by the excellent methods of Schultze and Piersol. The histological appearances described will, therefore, be understood to refer to chrome-hardened tissue stained in the various preparations of carmine." T. D.

BUFFALO STATE HOSPITAL FOR THE INSANE.—The superintendent, Dr. J. B. Andrews, in his report for 1890,

indulges in a historical retrospect which is of wider interest than usual for such reports.

The county asylums in the State of New York are now abolished forever. The effect of this law has been to increase the population of all the State asylums. The Buffalo Asylum now contains 100 in excess of its normal capacity. New asylums are being erected in New York, and the existing ones are being enlarged, so that soon there will be ample room for all.

By act of the Legislature the word "hospital" is decreed to be the legal designation of the institutions for the care of the insane. We fully agree with Dr. Andrews that the *name* can do little, but it is a move in the right direction. All should strive to make it apparent that the name does stand for something. That is the *desideratum* which it is hoped to attain.

In compliance with the action of the last Legislature, requiring the appointment by the superintendent of a female physician, Dr. Andrews has selected Dr. Eleanor McAllister, who is "a valuable assistant upon the women's wards."

There were 42 deaths and 120 recoveries during the year. The hospital now contains 465 patients (Sept. 30, 1890.)

Altogether, Dr. Andrews' report is one of especial interest. T. D.

KANSAS STATE INSANE ASYLUM (TOPEKA).—This asylum has now been in operation eleven years. The superintendent, Dr. B. D. Eastman, in the Seventh Biennial Report gives a short historical sketch of the asylum—2,308 cases have been treated up to date. The retrospect has principally to do with financial aspect of the work, and has only local interest. In general, Dr. Eastman says, steady and substantial progress has been made. T. D.

NORTHAMPTON LUNATIC HOSPITAL.—Thirty-fifth Annual Report (for year 1890). At the beginning of the year there were 446 patients; at the close, 495. The death rate on the average population was 4.46 per cent.; 18.8 per cent. of those admitted during the year recovered.

Dr. Nims advocates early hospital treatment for insanity. He says:

"The abridgment of personal liberty brings a very

strong influence to bear upon the patient. The regularity of hospital life and discipline and restraint are often serviceable in correcting those eccentricities and peculiarities which the insane are so liable to fall into, and lead to the formation of habits which are necessary to physical and mental health." T. D.

CENTRAL INDIANA HOSPITAL FOR THE INSANE, INDIANAPOLIS.—Forty-second Annual Report. This Hospital contains 1,583 patients, a slight decrease as compared with the number at the beginning of the year; 664 patients were admitted during the year, of whom only four were cases of general paralysis of the insane. The law does not permit insane criminals to be received into the asylum, and as no provision is made for them, the superintendent asks the Legislature to give the matter attention.

The medical staff has been increased by the appointment of a pathologist, in the person of Dr. F. A. Morrison. The superintendent states that "efforts are being made to perfect the medical treatment and to carry out the hospital idea of care as against mere asylum custody." Good! May your efforts be crowned with success!

T. D.

CENTRAL HOSPITAL FOR THE INSANE, JACKSONVILLE, ILL.—Biennial Report for 1889-90. Average number of patients for two years, 905; deaths in two years, 105; recovering, 154. Seven men escaped.

A duplicate of the building erected in 1884 is being built. It is to cost \$120,000 and to accommodate 300 patients.

In Illinois the insane are rapidly getting under State care. In 1870 the State hospitals contained only 450 patients; now 3,800 are inmates of the four asylums. Accommodations for 1,000 more will soon be ready.

T. D.

ILLINOIS SOUTHERN HOSPITAL FOR THE INSANE, AT ANNA.—A new *régime* has been inaugurated at Anna. Dr. E. B. Elrod has succeeded Dr. H. Warder in the superintendency. Drs. W. W. Hester and L. E. Stocking resigned their posts as assistant physicians. They have been succeeded by Drs. A. B. Beattie and N. J. Benson. The storekeeper, matron, farmer, besides some of the minor officers, resigned. We infer that these changes were not effected entirely without friction, for Dr. Elrod says:

"There is not now the strife and demoralization in the force which existed five or six months ago, and with a few exceptions all are striving loyally and faithfully to perform their respective duties in the interest of the State."

The hospital now contains 630 patients. There were 75 deaths and 72 recoveries during the biennial period. 20 per cent. of the deaths were due to consumption. The medical staff of the asylum unite in recommending the erection of two small cottages to accommodate the consumptives, so that the remainder of the patients can be kept free from the danger of infection by the bacilli.

We believe in one thing certainly—Dr. Elrod has started out right. We refer to his taking into council the subordinate medical officers in matters pertaining to the medical aspect of the hospital policy. We congratulate him and feel sure he will never feel that he has passed over any part of his generalship by so doing, as many of the older asylum physicians apparently have feared.

T. D.

NEW YORK STATE ASYLUM FOR IDIOTS, SYRACUSE.—The Fortieth Annual Report shows another year of steady progress. One-fifth of the applicants for admission are epileptics. The trustees recommend the erection of a separate hospital for epileptics, after the fashion of those in Belgium and Germany. It is also recommended that an additional asylum for idiots be erected. The present asylum contains as many as it can provide for comfortably. The trustees favor the erection of a distinct new plant rather than the enlargement of the present asylum, which is located within the city limits, where additional land cannot be purchased at a reasonable figure.

There were 13 deaths during the year (3 per cent.); 40 were admitted during the year. The new nomenclature will affect this asylum, which will no longer be an "asylum," but an "institution." The word "idiot" will also be erased and the less harsh term, "feeble-minded," substituted for it.

The superintendent, Dr. Carson, tells of his trip to Europe last summer, when he visited many of the notable institutions there.

T. D.

MINNESOTA HOSPITALS FOR THE INSANE AT ST. PETER, ROCHESTER AND FERGUS FALLS.—All three asylums in Minnesota are under the management of one board of



trustees. The hospital at Fergus Falls is the youngest of the three asylums. It is in charge of Dr. Alonzo P. Williamson. Only one wing is at present occupied, but it is hoped soon to have the whole building ready for patients.

The St. Peter Hospital contains 979 patients; the Rochester Hospital, 857; the Fergus Falls, 83.

The criminal insane are subject of discussion by all three superintendents. No separate provision for their care is now provided. It is hoped that adequate provision for this class of insane will soon be provided.

Dr. Kilbourne's discussion of "Hospital Buildings" is of enough general interest to warrant the reproduction of his views here in full:

"Although hospitals built on the congregate plan are generally satisfactory in their arrangements, they are lacking in the essential feature of separate provision for the sick.

"The general wards of a hospital cannot furnish the necessary seclusion and quiet for the sick, neither can attendants on such wards, with their numerous duties, give them their exclusive care and attention, which they need.

"Also, in cases of contagious or epidemic diseases, means should be at hand for the complete isolation of those affected.

"To secure to the sick this necessary quiet and proper nursing and to provide for the isolation of those with contagious diseases, separate hospital buildings, one for each sex, should be provided.

"Such buildings should be supplied with competent day and night nurses, and every convenience and comfort for the sick. And it is hoped that this much needed addition to the hospital may sooner or later be secured."

We trust that the realization of the doctor's idea will come "sooner" rather than "later." T. D.

TAUNTON LUNATIC HOSPITAL.—Annual Report (1890). The trustees recommend an appropriation by the ensuing Legislature of \$90,000, for the purpose of erecting two buildings, in connection with this hospital, for the care of the sick and infirm, each building to have a capacity for seventy-five patients. The plan contemplates the erection of an addition to the present hospital, on either side, of sufficient capacity to accommodate seventy-five patients of each sex.



The trustees have our best sympathies in this endeavor to carry out by works rather than words the hospital idea. May speedy success attend their effort.

Several changes have occurred in the medical staff during the past year. Dr. Drew and Dr. Hutchinson have resigned their positions as assistant physicians, the former to accept a similar position in the Government Hospital for the Insane at Washington, D. C., and the latter to take charge of the erection of the buildings for the Massachusetts Hospital for Dipsomaniacs and Inebriates, of which he has recently been appointed Superintendent. The withdrawal of both is a great loss to this hospital; but each has earned his promotion by long and faithful service—Dr. Hutchinson having been connected with the hospital thirteen years, five years of which he was first assistant physician, and Dr. Drew, six years.

T. D.

**SOUTHERN INDIANA HOSPITAL FOR THE INSANE.**—First Report. The hospital was opened for patients Oct 30, 1890. If one may judge from the cut which makes the frontispiece of the report, the buildings present a fine architectural appearance. Dr. A. J. Thomas has been appointed superintendent and Drs. C. T. Zaring and E. P. Busse assistant physicians.

This hospital is intended to accommodate the population in the southern part of Indiana, thus relieving, in part, the very much overcrowded hospital at Indianapolis.

Dr. Thomas has encountered many difficulties since he took charge, but has met them bravely. T. D.

**MICHIGAN ASYLUM FOR THE INSANE.**—Report for 1889-90. Number of patients 969; admitted during the period, 465, deaths 98, recoveries 104.

A \$12,500 chapel, calculated to seat 450 persons, is in course of erection.

Electricity has been used as a therapeutic agent for relief of a number of physical ailments. It is hoped soon to try its effect upon mental disease.

Full-page elaborate cuts of the various outbuildings are introduced—the Brook Farm, Trask Cottage, Palmer Cottage, Von Dusen Cottage.

We are indebted to the generous hospitality of Drs. Edwards and Savage, who most graciously entertained us for a week last summer. T. D.

## REVIEWS, BOOK NOTICES, &c.

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THE BACTERIOLOGICAL WORLD, Paul Paquin, M. D., V. M., Editor, Director Bacteriological Laboratory, State University, Columbia, Mo., U. S. A., a Monthly Illustrated Magazine for the study of Micro Organisms and Diseases of Bacterial and Parasitic Origin.

The public at large has been appalled at the multiplicity of harmonizing discoveries brought about by scientific men, and shedding such a glowing light on the causation and prevention of disease. Pasteur, Koch, Loeffler, Billroth, Cohnheim, Belfield, Klebs, Cohn, Chauveau, Shakespeare, Babès, Sternberg, Cornil, Lister, Klein, Tomasi Crudeli, Nocard, Welch, Crookshank, Chantemesse, Detmers, Salmon, Arloing, Cornevin, Billings, Schutz, Smith, and a host of others of national and international reputation, have been for years searching in the dark natural history of the invisible life and endeavoring to penetrate the secrets of microbic existence. What marvelous results were obtained! Following in the path indicated by the remarkable genius of Pasteur, and enlightened by the perspicacity and learning of the experimentalist Koch, investigators have put the world in possession of facts that have revolutionized the practice of medicine and hygiene among the progressive nations and progressive men of the art and science.

A special feature of the magazine will be a plain and complete illustrated course in bacteriology (after modern bacteriologists), running through a series of numbers in lessons of three or four pages each, thereby gradually initiating the readers yet unacquainted with the subject, in the great light that a fair knowledge of bacteriology sheds on all specific affections. Thus, at the end of one year, each subscriber will be in possession, at little cost, of a reliable illustrated text-book on bacteriology, and will know the newest and best methods of technique.

The first number contains a frontispiece of Pasteur's and Koch's, pictures; "Study of Bacteriology," preface, introduction, etc.; "Original Articles," actinomycosis in man and beast (big jaw of cattle), foreign and home investigations; "Surgical Bacteriology," bacterial complication of wounds (Ogston, Rosenbach, Cornil, Babès, etc.); "Medical Bacteriology," immunity, by Dr. Bouchard, Paris, France; "Hygienic Bacteriology," hydrophobia, by Dr. Paul Gibier, Pasteur's Institute, New York City; "True and Spurious Bovine Vaccination and Complications," by Paul Evans, Pathological Laboratory Missouri Agricultural Experiment Station; "Clinical Notes," Pambotano in malaria (a specific substitute for quinine), Tarro-Petrolene (or petrolene compound), Pyoktanine; "Editorial;" "Koch's Treatment of Tuberculosis;" "Notes from Laboratories," Pasteur's laboratory and others.

By special arrangement Dr. Paquin will supply readers at the earliest date the freshest observations and discoveries from the investigators of the most renowned European laboratories, so that the

readers may keep pace with the universal progress of pathological bacteriology.

The magazine contains between thirty and forty pages of reading matter illustrated. The price will be three dollars per annum, or thirty cents for single numbers, invariably in advance. A special offer to students' clubs, or others, is as follows: For ten numbers *to one address* twenty-five dollars, or two dollars and a-half each; for fifteen numbers thirty dollars, or two dollars each; for twenty numbers thirty-five dollars, or one dollar and seventy-five cents each. *Three months' trial subscription seventy-five cents* in advance. The subscription of all scientists, medical men, veterinarians and others interested is earnestly solicited, and original contributions are invited.

Dr. Paul Paquin, the editor, has qualified in bacteriology, by studying in several European laboratories, including Cornil and Ranvier's at the Paris Medical School, and at the conferences of Pasteur's laboratory. He has devoted several years in the experimental study of the subject, and is now director of the Missouri State University patho-biological laboratory, and lecturer on bacteriology in the medical department of the same institution. He is, besides, investigator of specific animal diseases for the Agricultural Experiment Station of Missouri.

Those securing a copy of the first number, and who will continue their subscription, will, in about a year, be the owners of a finely illustrated work on bacteriology with the newest methods of investigations, and besides will have received early, and will be the possessor of all new points in pathological bacteriology as revealed by the masters. Address, with subscription,

THE BACTERIOLOGICAL WORLD PUBLISHING CO.

ŒUVRES COMPLETES DE J. M. CHARCOT. Hémorragie et Ramollissement du Cerveau; Metallothérapie et Hypnotisme; Electrothérapie.

The *Medical and Surgical Reporter*, which antedates us in publication, gives a very satisfactory analysis of the contents of this valuable book as follows:

This volume contains Prof. Charcot's writings upon cerebral hemorrhage, which he believes to be due, in the majority of cases, to miliary aneurisms of the small arteries of the brain. Abstracts of eighty-seven cases are given in support of his opinion. As regards softening of the brain, he accepts the view which attributes the softening to an alteration of nutrition, following upon embolism, atheroma or thrombosis. There are also important papers on joint diseases apparently due to diseases of the brain and cord. The second part of the book is devoted to metaloscopy, metalotherapy and hypnotism. In the third and concluding part, Prof. Charcot speaks of electrotherapy, and especially of the use of static electricity in medicine.

The whole book is a mine of information and will prove invaluable to students of nervous diseases.

It only remains for us to reiterate our continued appreciation of the distinguished author, and to commend anew his indefatigable industry and unsurpassed talents as again portrayed in the work before us.

INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, United States Army. Authors and Subjects. Volume XI. Phædronus-Regent. Washington: Government Printing Office, 1890.

"This wonderful work is gradually nearing completion. We see that so far 115,000 books and pamphlets and 350,000 journal articles have been indexed already. Such a costly and laborious undertaking is well worthy the richest and most industrious nation on earth, which alone could undertake it."

The *Canada Medical Record* pays the above well-deserved tribute to the industry, energy and professional *esprit du corps* of the Surgeon-General's department, and we copy it into our columns with pleasure as a reflex of how others see, and we cordially reiterate our former commendation of the inestimable work—the greatest library work of modern times, or indeed of any age in man's history.

EARLY DIAGNOSIS OF SOME SERIOUS DISEASES OF THE NERVOUS SYSTEM: ITS IMPORTANCE AND FEASIBILITY. By E. C. Seguin, M. D., Member of the Providence Medical Association, the Association of American Physicians, etc.

This is one of the best of the distinguished author's later contributions to clinical neurology. It is a timely discussion of an important subject in neurological medicine, presented in an able and attractive manner. The author's views are in harmony with similar opinions expressed editorially in the present number of the *ALIENIST AND NEUROLOGIST*.

On the subject of the bromides and epileptic dementia, the author makes a most judicious and opportune differentiation calculated, we think, to dispel the erroneous notion that the bromides properly employed in epilepsy may develop dementia.

THE TIME RELATIONS OF MENTAL PHENOMENA. By Joseph Jastrow Professor of Psychology at the University of Wisconsin. Fact and Theory Papers, 60 pp. New York: N. D. C. Hodges, 1890.

This book is a complete digest of the literature, with abundant references. Investigations of this kind tend to facilitate and shorten mental processes and to give us improved methods of education, and as such they are of interest for physiological psychologists.

PURDY ON DIABETES. Office of F. A. Davis, Publisher and Bookseller, No. 1231 Filbert Street, Philadelphia.

This is another one of the practitioners' series of practical monographs sent out by this enterprising house in its usual attractive style.

FIFTY REMEMBERS FOR DRUGGISTS. By H. M. Whelpley, M. D., Ph. G. We extract the following as of value to hospital pharmacists and others who dispense prescriptions, and for hospital matrons, clerks and others:

1, Remember that saltpetre and sulphur may explode, if pounded in an iron mortar. 2, Remember that powdered camphor can be kept in the pulverulent form by the addition of one-half per cent. of oil of vaselin. 3, Remember that a "want" book is of no value unless used. 4,



Remember that sugar added to ordinary ink forms a good copying ink. 5, Remember that quinine will preserve mucilage, paste, etc. 6, Remember that anilin colors fade with age. Records should not be written with anilin ink. 7, Remember that kid gloves can be cleaned by rubbing them with a clean chamois, dipped in sweet milk. 8, Remember that sulphureted hydrogen water is best preserved in glass-stoppered bottles, with the stopper protected by vaselin. 9, Remember that cherry laurel water and morphine salts are liable to form the poisonous cyanide of morphine. 10, Remember that powdered rosin may produce spontaneous combustion. 11, Remember that an application of a weak solution of hydrochloric acid, followed by a weak solution of chlorinated lime, will remove logwood stains from the skin. 12, Remember that rose water made with carbonate of magnesium and used to make eyewater by dissolving zinc or lead salts, will form an irritating precipitate. \* \* \* 14, Remember and mix acids with water, by pouring the acid into the water and not the water into the acid, as the latter process may cause an explosion of steam. 15, Remember that ethereal solutions of iodoform are not permanent. 16, Remember that prescription vials are not always accurate measures, and the quantity of liquid to be used should be measured in a graduate. 17, Remember that the granulated gum arabic dissolves more readily than the powdered. 18, Remember that chloral and cyanide of potassium mutually decompose each other, and that hydrocyanic acid is one of the products. \* \* \* 26, Remember that the antidotal treatment for the most common poisons should be familiar to druggists. It is not sufficient to know where to find them. 27, Remember that pyroxylin should be kept packed in glass and moist with its own weight of water. 28, Remember that glycerin administered in large quantity may produce poisonous symptoms. 29, Remember that when alcohol and water are mixed the combined volume is less than the sum of the two separate liquids. 30, Remember that alcohol stains varnished surfaces. 31, Remember that the druggist who makes a failure of his own business knows how to run every other store in the neighborhood. 32, Remember that moistening aconite tubers with alcohol before powdering in a mortar will prevent the irritating dust from rising. 33, Remember that carbolic acid is combustible. 34, Remember that the National Formulary is the authority for non-official preparations. 35, Remember that iodine and the iodides precipitate the alkaloids. 36, Remember that scaly iron salts dissolve more readily by adding the scales gradually to the menstruum than by triturating in a mortar. 37, Remember that it is never safe to manufacture a preparation from memory. Always have the formula before you. 38, Remember that acetate of lead loses some of its acetic acid when exposed to the air. 39, Remember that cocaine and borax form an insoluble borate of cocaine, while boric acid and cocaine do not. 40, Remember that black lead is not plumbum, but a form of carbon. 41, Remember that eulyptol is a proprietary preparation and differs from eucalyptol. 42, Remember that the metric system has been adopted for the seventh decennial revision of the U. S. P., and it is time to learn the principles of the system. 43, Remember that five parts of

phenol with ninety-five parts of water, or five parts of water with ninety-five parts of phenol, form clear mixtures. 44, Remember that the American Pharmaceutical Association meets at Old Point Comfort, Virginia, September 8, 1890, and that every druggist here should attend. 45, Remember that learning the answers to a set of examination questions does not prepare you for an examination. 46, Remember that Bastin's New College Botany and the fourth edition of Maisch's Organic Materia Medica, are two books which should be possessed by every pharmacy student. 47, Remember there will be plenty left to learn, even if a clerk studies several text-books before he enters a college of pharmacy. 48, Remember that your certificate of registration should be prominently displayed. 49, Remember that many cabinet specimens of drugs and chemicals are easily ruined by rough handling. 50, Remember and eat at regular hours and take the usual amount of time for meals that other business men enjoy. Few things make a person ill-natured quicker and renders him more unsuitable for business than irregular habits about eating. I think that much of the proverbial crabbedness of druggists is due to their habits of eating behind the prescription case, where they are frequently interrupted by customers. —[Read at the Mo. State Pharmaceutical Association, 1890.

THE CENTURY for April pre-ents its usual table of entertaining contents for the general reader. A subject interesting to alienists is discussed as follows :

“*The Effect of Christian Science and Mind Cure on the Regular Practice.*” It is a very old observation that a dominant idea is valuable in controlling the human being, and whether it be in the bearing of pain or in the devotion which leads the Turk to die contentedly before the Russian bullets, belief is a factor that may be turned to great advantage. Indirectly, Christian Science may prove an aid to medical science. The intelligent physician of to-day could receive no greater aid in the scientific practice of his profession than to be emancipated by his patients from the obligation invariably to prescribe a drug. When people are willing to employ physicians to order their lives so that they may live in health, the custom which binds the physician to prescribe something for his patient will be unnecessary. As we have become more civilized this state of affairs is gradually coming into place ; but there still lingers the expectation that the doctor's visit means drugs. Christian Science and Faith Cure, more refined than the spiritualistic beliefs which have preceded them, form an interesting study in mental pathology, and mark an advance from the grosser stage of table-tipping and magnetic doctors to a recognition of the fact that among the weapons employed by the scientific physician of to-day an appeal to a determined purpose to overcome pain is worthy of a place beside antiseptics and anodynes and tonics.—*The Century for April.*

AMERICAN JOURNAL OF PSYCHOLOGY. G. Stanley Hall, Ph. D., editor, continues to maintain the promise of its prospectus and to grow even better than in the beginning with added years. Each volume contains original studies in scientific psychology, normal and abnormal, together



with numerous reviews and digests of literature on the nervous system and cerebral localization, experimental physiology and psychology of the senses, morbid psychology, hypnotism, instinct, development of mind in children, besides psychological news and notes.

In the first prospectus it was announced that each number of the first year would probably contain sixty pages. The abundance of valuable material, however, has so far exceeded expectations that the numbers have averaged three times that size. An increase of price has thus been made necessary.

The yearly subscription for the four numbers of Vol. II. is \$5.00. Single numbers, \$1.50. Back numbers will be supplied at the same rate.

Remittance may be addressed to the *American Journal of Psychology*, Baltimore, Maryland, U. S. A. Orders may be forwarded through Messrs. Trübner & Co., London.

THE JOURNAL OF COMPARATIVE NEUROLOGY. Among our new exchanges the March number of this valuable quarterly periodical, devoted to the Comparative Study of the Nervous System, and which is edited by C. L. Herrick, Professor of Biology, etc., in the University of Cincinnati. Its table of contents is as follows: Contributions to the Comparative Morphology of the Central Nervous System. By C. L. Herrick. Laboratory Technique, Morphology of the Avian Brain. By C. L. Turner. Editorial, Literary Notes, Bibliography, etc. Its place of publication is Cincinnati, Ohio, and from the appearance and merits of the present number it promises to take rank with the *Journal of Physiology*, *Archive de Physiologie* and other periodicals of like scientific merit. Professor Herrick, its able editor, is possessed of acknowledged ability and tried energy. We cordially welcome this new periodical and place it with pleasure on our exchange list

A Case of Spina Bifida with Suppurative Spinal Meningitis and Ependymitis, Due to Bacteria Entering the Wall of the Sac. By L. Emmett Holt, M. D., Professor Diseases of Children, New York Poly-clinic, and Ira Van Giesen, M. D., First Assistant at the Laboratory of the Alumni Association of the College of Physicians and Surgeons.

Proposed Changes in the Present Law Regarding the Legal Restraint and Detention of the Insane for the Purpose of Care and Treatment in the State of Illinois. By Sanger Brown, M. D., Professor of Mental and Nervous Diseases Post-Graduate Medical School, Chicago.

A Case of Successful Trephining for Subdural Hemorrhage Produced by Contre-Coup. By John Homan, M. D., Visiting Surgeon Massachusetts General Hospital, and George L. Walton, M. D., Physician to the Neurological Department, Massachusetts General Hospital.

A Group of Cases of Scleroses of the Spinal Cord, Associated with Diffuse Collateral Degeneration; Occurring in Enfeebled Persons Past Middle Life, and Especially in Women; Studied with Particular Reference to Etiology. By James J. Putnam, M. D., Boston.

**Muscular Atrophies: A Clinico-Pathological Study.** By William C. Krauss, M. D., Lecturer on Pathology in the Niagara University Medical College, Buffalo, N. Y.

*The Journal of Gynecology.* A monthly journal of Gynecology, Obstetrics and Abdominal Surgery. Charles N. Smith, M. D., Editor, 1921 Franklin Avenue, Toledo, Ohio.

**Methods of Examination in Medico-Legal Cases Involving Suits for Damages for Real or Supposed Injuries to the Brain and Spinal Cord.** By Philip Coombs Knapp, A. M., M. D.

**The Franklinic Interrupted Current or, My New System of Therapeutic Administration of Static Electricity.** By William James Morton, M. D., New York City.

**Past and Present Laws Regarding the Legal Restraint and Detention of the Insane in the State of Illinois.** By Harold N. Moyer, M. D., Professor of Physiology in Rush Medical College, etc.

*Eine eigenthümliche Familienkrankheit, unter der Form einer progressiven Dementia, mit besonderem anatomischen Befund.* Von Prof. E. A. Homén, in Helsingfors (Finland).

**Commitment and Conveyance of Patients to our Hospitals for the Insane.** By J. H. James M. D., First Assistant Physician, Minnesota Hospital for Insane.

*Mittheilungen ueber die Ichthyolbehandlung bei Frauenkrankheiten.* Von Dr. Richard Bloch, d. Z. supplirender Sekundararzt der obigen Abtheilung.

**A Farther Study of Anodal Diffusion as a Therapeutic Agent.** By Frederick Peterson, M. D., Attending Physician to the New York Hospital for Nervous Diseases.

**Mechanical Restraint in Our State Hospitals for the Insane.** By Gros. R. Trowbridge, A. M., M. D., Assistant Physician to the State Hospital for the Insane, Danville, Pa.

**A Case of Epilepsy with Double Consciousness,** by G. R. Trowbridge, M. D., Assistant Physician to the State Hospital for the Insane, Danville, Pa.

**Preliminary Programme of the Second Triennial Meeting of the Congress of American Physicians and Surgeons,** to be held in Washington, D. C., on September 22d, 23d, 24th and 25th, 1891.

**Cases of Penetrating Stab Wounds of the Abdomen; Laparotomy; Results,** by H. C. Dalton, M. D., Superintendent City Hospital, St. Louis.

Moral Insanity. by W. P. Spratling, M. D., First Assistant Physician and Pathologist N. J. State Insane Asylum, Morris Plains, N. J., Member New York Medico-Legal Society.

Rupture of Liver and Kidney, Excessive Hemorrhage; Laparotomy; Recovery, by H. C. Dalton, M. D., Superintendent City Hospital, St. Louis.

Hypnotisme et Croyanees Anciennes. Par L. R. Regnier. Publications du Progrès Médical, Paris, 14 Rue des Carmes.

The Prevention of Myopia. By Francis Dowling, M. D., of Cincinnati, O.

Some Methods of Treating Nerve Tissues. By William C. Krauss, M. D., Buffalo, New York.

Two Days at Gheel. By George T. Tuttle, M. D., First Assistant Physician of the McLean Asylum, Somerville, Massachusetts.

Neuriter Efter Influenza. Af E. A. Homén, in Helsingfors (Finland).

Annual Report on Laws Regulating Medical Practice. By Richard J. Dunglison, A. M., M. D.

Resection of the Optic Nerve. By L. Webster Fox, M. D., Philadelphia.

Ichthyol et ses Préparations. Par Dr. Gillet de Grandmont, Secrétaire Général de la Société de Médecine pratique, Paris.

Mittheilungen aus dem Garnisonskrankenhaus. Von Chr. Ulrich, Reservearzt.

On Ichthyol and Its Use in Medicine and Surgery. By A. Mueller, M. D., of Yackandandah, Victoria.

De L'ichthyol dans la Traitement de la Dyspépsie et des troubles céphaliques et nerveux qui en Dépendent. Par le Dr. A. Stocquart.

Kurzer Beitrag zur Ichthyoltherapie bei Frauenkrankheiten. Von Dr. Kötschau in Köln.

A Study of Sterility; Its Causes and Treatment. By Thos. W. Kay, M. D., of Scranton, Pa.

The Differential Diagnosis and Treatment of Multiple Neuritis. By George J. Preston, M. D., Baltimore.

Mechanical Obstruction in Diseases of the Uterus. By George F. Hulbert, M. D., of St. Louis, Mo.

Observations based on the Clinical Application of the Koch Lymph at Vienna, by Otto E. Forster, M. D., St. Louis.

Three Laparotomies on One Patient: Recovery, by H. C. Dalton, M. D., Superintendent City Hospital, St. Louis, Mo.

A Second Note Upon Homonymous Hemiopic Hallucinations, by Frederick Peterson, M. D.

A Case of Gastrostomy, by H. C. Dalton, M. D., Superintendent City Hospital, St. Louis.

Some Recent Surgical Cases, by H. C. Dalton, M. D., Superintendent City Hospital, St. Louis, Mo.

Inebriety and Its Treatment. By Dr. J. A. H. Crespi (Wimborne).

Ueber "Ichthyofirnisse." Von P. G. Unna.

Patogenesi Della Neurastenia. Par Dottore Alfonso Girone.

The Medical Expert, by J. T. Eskridge, M. D., of Denver, Colorado.

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THE  
*Alienist and Neurologist.*

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VOL. XII.

ST. LOUIS, JULY, 1891.

No. 3.

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ORIGINAL CONTRIBUTIONS.

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**On the Nature of the Somatic Phenomena  
in Hypnotism.**

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By PROFESSOR A. TAMBURINI.

**A**MONG the interesting questions related to hypnotism, one of the most debated is still whether the so-called somatic phenomena of hypnosis, such as the neuro-muscular excitability, the contractures called lethargic or somnambule, catalepsy, etc., really subsist as special products of hypnotism, or are but effects of the suggestion uttered by the operator. It is known that the two schools of Charcot and Bernheim are in bitter conflict on this matter, and that each of them maintains that the question has been already solved, but each in accord with its own view. Whilst Bernheim and others of the school of Nancy absolutely deny the existence of the phenomena held to be characteristic of the three stages described by Charcot, and therefore regard the so-called grand hypnotism as a purely artificial creation; on the other hand it has been distinctly asserted in a recent publication by Richer and Gilles de la Tourette, that the grand hypnotism, as it has been studied in the Salpêtrière, alone merits the title of scientific.

The confusion created by this discord is all the more

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grave from the circumstance that it has been verified in that order of facts which, from their objective character, have served as the points of departure for the scientific study of hypnotism, and had indeed permitted it to be received into the domain of science, on which facts it had a large assignment, to serve not only for an exact nosography of hypnotism, but also as a solid protection against all possible simulation in medico-legal questions. The numerous publications which have recently appeared, on this subject, whether in defense or in conciliation, demonstrate the importance which is attached to the question that has been the subject of lively discussions which led to no result, in the International Congress, at Paris. I now venture to enter on the subject, because I have had the favorable opportunity of observing some cases which presented nicely the facts described by Charcot, as well as others which presented only the phenomena described by Bernheim, and I believe I am able to bring some contribution to the solution of the difficult question. I shall, in this communication, limit myself to a brief exposition of the facts and the considerations emanating therefrom, intending to exhibit both in a more extended publication hereafter.

#### I.

If from the numerous facts, which have been reported by many observers, we select those which have been regarded as truly characteristic of the so-called three stages of the grand hypnotism, we shall see that they are reduced to phenomena of motility, since it is readily discovered that the phenomena of sensibility and those which may be obtained in the psychical sphere are very nearly common to all the three stages. In fact, alike in the so-called lethargic, the cataleptic and somnambulic stages, general sensibility is abolished, whilst in the special senses there is seen a partial activity and sometimes even an acuteness. As to the psychical sphere there is a state of observable suggestibility, differing according to the degree of profoundness of the sleep. On the other hand what would

seem essentially to differentiate the three stages are the muscular phenomena, and certainly the neuro-muscular hyperirritability in the lethargic stage, that is to say, the contractions and contractures, from simple mechanical excitation of the muscles and nerves, which react to it, as if they had been stimulated by the electric current; the waxy flexibility of the limbs in the cataleptic stage; the cutaneo-muscular hyperexcitability, that is to say, the contractures resulting from simple excitement of the skin, in the somnambule stage.

We have observed all these phenomena of contractures and catelepsy distinctly in the typical case of hysteropilepsy which formed the object of various communications in conjunction with Dr. Seppilli. We are perfectly certain that we obtained them without any suggestion whatever. At that time, 1881, suggestion, in the production of hypnotic phenomena had not been spoken of; we however used every possible precaution against a certain thing which was feared—that is to say, simulation. When we commenced our researches on hypnotism we were under the influence of a strong dose of scepticism; we doubted the completeness of the sleep and the suppression of consciousness. We therefore feared that the patient might, with that finesse which is peculiar to hysterical females conjecture the occurrence which we were looking for; consequently, from the beginning to the end of our experiments, we had recourse to an infinite series of precautions, in order to protect ourselves from every sort of deception, so that the phenomena were produced under conditions of the most absolute spontaneity, and a series of verifications and controls, some of which, as those with the magnet, led us to important results, which were of value in bringing to light their suggestive action. Moreover, the great number of the phenomena observed and described by us were to us quite new and unexpected, and some of them were produced, for the first time, accidentally, free, from any intervention on our part, such as the cataleptic immobility in the case of the female Gozzi,

studied by me and Seppilli; this phenomenon was verified, for the first time, after a loud noise, by the firing of a gun near the windows of the female section of the asylum; and in another hysterical studied by me in conjunction with Dr. Guicciardi in the same asylum, in whom the catalepsy was first verified by the application of the hypnoscope. In like manner, altogether unexpected by us, was the exhibition of the conditions which suppressed the various phenomena of hyperexcitability, such as the impression of cold and hot water, ice, some narcotic substances, as morphia, chloral or hyoscinamin, under whose action the above-named phenomena completely disappeared, as they also did under the action of ether and chloroform.

The like facts have been stated by other observers who have preceded and followed us in their researches, but especially by the more recent, who have observed the phenomena previously assigned to suggestion; for example (speaking only of the Italians), Groco, Sornbeaso, Rummo, and Vizioli: the last named of these saw these distinctly in a case of hypnotism, not provoked, but spontaneous.

Further, there are, among the somnambulic phenomena, some which suggestion is absolutely incapable of producing, and all trials made, especially by Bernheim, to produce them by means of suggestion, totally failed. I here speak of the neuro-muscular hyperexcitability, which is exhibited with movements exactly localized according to anatomo-physiological laws, as soon as individual muscles and nerves are mechanically excited. There is no suggestion, whether conscient or inconscient, that can give indication of the movements which should be accomplished when, for the first time, the following muscles are excited mechanically, viz., the adductors of the thigh, the anterior tibial, the supinator longus, the triceps extensor, the quadratus menti, the risorius Santorini, or the nerve trunks of the cubital and the median. The rapidity with which the contractions are accomplished, and the

intensity which they acquire, in direct proportion to the energy of the excitations, convince every person who makes the experiment, of the entire spontaneity and the absolute reflex nature of the phenomenon. Delboeuf, who sought to obtain them, by clear verbal suggestions, that is, by suggesting, along with every excitation, the movements which ought to be accomplished, did not succeed either in completely producing them, or in reproducing them twice in succession, even in an incomplete form.

Moll, who, in a recent work, joins in the suggestive interpretation as respects other somatic phenomena, does not believe that he can say the same with regard to the neuro-muscular hyperexcitability. Grasset also, and Babinski, have sought, to modify by suggestion, the phenomena which the hypnotised present, or to develop, by means of suggestion, new phenomena, but always in vain, the somatic phenomena presented by the subjects continued just as they were before, that is, fixed and disobedient to every suggestion. We have verified the same in the hypnotic state of numerous hystericals, in whom the phenomena, fixed and constant, somnambulic or lethargic, which they presented, were undefinable by any means whatever, even the most persistent suggestions. This, in the meantime, proves the falsity of the assertion that every experimenter can fashion cases according to his own fancy, or by means of more or of less strongly willed suggestions; but it also proves that in many cases somatic phenomena are met with, fixed, constant and not subjected to the feeling of any suggestive influence.

Again, even admitting that, by virtue of repeated suggestions, we might succeed in reproducing all the somatic phenomena in question, this would not at all prove that they are uniquely the effect of suggestion. If it is possible, to obtain by suggestion, vomiting, diarrhea, and even to produce menstruation (and we have observed a typical case in which this discharge was undoubtedly produced by auto-suggestion), surely no one would believe

that that these facts are uniquely and constantly suggestive phenomena !

Hence, though we might be disposed to admit that, in many cases, some of the so-called somatic phenomena may have been produced in the suggestive way, and though we might also admit that by prolonged repetition of these phenomena in the same individual, the suggestive element might enter into their production, yet we assert that these phenomena may be produced, and are really produced, outside of any suggestion whatever.

## II.

That which is, on the contrary, certain, is that the somatic phenomena in question are really met with only in a very limited number of cases, and that these cases all pertain to the grand hysteria: that is, in only these few cases are the so-called characteristic three stages, with their special neuro-muscular phenomena obtained, and they are obtained by means of a species of phenomenal determinism, very exact and constant. But, in contrast with these few, what an innumerable series of cases belonging really to the more grave hysteria and to other neuropathias, in which the said phenomena are not obtained by hypnotism, or they are verified only partially, that is isolated, fractioned, incomplete, or mixed, interlaced, and confused in such a manner as to render utterly undiscoverable that nice and comely seriation of three stages, established as the type of hypnotic phenomenology by the school of Charcot, which founds on this the entire nosography of hypnotism ! And what another innumerable series of cases of individuals who present no neuropathic stigmata of any sort, and in which not one of the somatic phenomena recorded has been observed, and all the phenomenology is reduced to pure sleep and pure and simple suggestion ! This explains why so many observers, at the head of whom stands Bernheim, absolutely deny the existence of the



somatic phenomena of hypnotism, just because they have never seen them.

This, however, carries us to our first conclusion, which is, that the somatic phenomena which seem to have characterized the so-called stages of the grand hypnotism, a proper to only a few cases which belong to the grand hysteria. The assertions of Bottey, that he had met with them equally exact in persons quite sound, do not merit serious consideration, as they are mere affirmations, related without any experimental or clinical control, and without any guarantee that he was clear of danger from suggestion. The researches of Heidenhain, on sound persons, have the like fault; for in these the muscular phenomena do not constitute a symptomatic complex, with constant seriation, but appear detached, fractioned and variable to infinity.

### III.

But though we admit that the somatic phenomena may exist independently of any suggestive influence, in certain cases of the grand hysteria, we cannot equally admit that they should justify the nosographic division established by the school of Charcot, of three stages of the grand hypnotism, which, according to that division would not constitute the varied phenomena of a simple nervous state, but rather, to use the very words of Charcot, would represent a series of nervous states differing from one another, and provided each with a symptomology altogether its own.

Against this conception we were the first to raise our voice, when, in the communication, along with Dr. Sepilli, on the so-called three stages, in 1882, we had sought to demonstrate that the phenomena which apparently characterized them, do not justify, in the least, their nosographic, neat and precise distinction; because these cases, on the contrary, are but different manifestations of the unique fact, and this is the augmented excitability of the nerve centres, and the variety of these manifestations

is determined solely by the different nature, intensity and duration of the stimuli which are employed to bring them into view.

Now our studies and those of others, accomplished within these last years, still further confirm our conviction in this matter. It is known by all that, if any general fact can be admitted as common to all, or almost all cases of hypnotism, especially the hysterical, it certainly is, that the manœuvres of the hypnotizer lead to an augmentation of reflex-excitability, into which may enter the suggestibility of the subject operated on, which, in ultimate analysis, is but a greater readiness for the production of the psychical reflexes.

The muscular phenomena which alone should be, according to the school of Charcot, truly characteristic and distinctive of the three stages—the lethargic, the cataleptic and the somnambulic (for the sensory and psychical phenomena are almost common to the three stages), and which alone exactly, because of their objectivity, should have a high nosographic and medico-legal value, do not arise spontaneously, but are provoked by the action of different suitable stimuli, which determine, not indeed new and special states, but merely bring into play, in varied manner, the augmented reflex-excitability. In fact, in order to produce, in the lethargic stage (which is no other than a very profound sleep, with total relaxation of the members, representing, as we think, the true fundamental and unique state of hypnotism), the phenomenon of neuromuscular hyperexcitability, that is to say, contractions and contractures, a mechanical excitation is carried over the muscles, tendons and nerves, and thus are provoked the contractures of the respective muscles or groups of muscles, and the corresponding movements, in obedience to the laws of physiology. Now, if this mechanical stimulus, which is made to act on the muscles and nerves, be slight and fleeting, slight and fleeting will also be the muscular contraction, in the form of a feeble clonic contraction; if, however, strong and prolonged be the excita-

tion, strong and prolonged will be the contraction, in the form of contracture; and if the duration and intensity of the stimulus be augmented, this will cause it to be felt over other groups of muscles, and thus a still more diffused contracture will be produced. This phenomenon is evidently no other than a manifestation of the exaggerated neuro-muscular reflex-excitability, a manifestation proportioned to the intensity and duration of the stimuli employed.

And as to the passage from the lethargic to the cataleptic stage, how is this produced? Luminous stimuli especially are employed; but also the acoustic and tactile, all rather weak, but prolonged; such as the action of light on the open eyes, the vibration of the tuning-fork near the ear, prolonged tickling of the skin. Under the action of these stimuli is verified the waxy flexibility of the limbs, because of which they maintain the positions imposed on them, and remain so as long as the action of the stimuli continues; but on the cessation of this action, the patient falls back into the lethargic state. Now, is this, indeed, a nervous state, quite new and distinct? Is it not, on the contrary, the effect of the new stimulus employed, and is it not proportioned to this stimulus? Here, in fact, then, is brought to act on the nervous centres, by one way or another, a stimulus which is not very intense, but prolonged, and there is obtained (as a reflex effect) that feeble, general contracture of the muscles, in which, according to Richer and the majority of physiologists, catalepsy should be held to consist. If the stimulus, instead of being moderate, is very intense, such as the magnesian light or the tapping of the *tam-tam* (query—the bass drum?), or a strong pressure on some part of the body, we obtain cataleptic immobility, but, instead of the simple waxy flexibility there is strong contracture, a general rigidity, which lasts as long as the action of the stimulus is continued. This means that a very intense and protracted muscular reaction responds to strong and prolonged stimuli.

Here, then, also, we have not in hand a new and distinct nervous state, but, rather, simple muscular manifestations of exaggerated reflex-excitability, which lasts as long as the stimuli employed, and they are in their intensity proportionate to the intensity of these stimuli.

Finally, in the so-called somnambulic stage, which is generally provoked by means of pressure on the top of the head, there is a medium state of general contracture (resistance of the limbs to forced movements and bendings), which should be regarded as the result of the rather intense mechanical stimulus employed. And as to the phenomenon which would seem to be characteristic of it, the so-called cutaneo-muscular hyperexcitability (contracture of the muscles wherever the skin lying over them is slightly excited), if we properly consider the mechanism of its production, we shall discover that the local cutaneous excitement merely carries, in a higher degree, into the muscles beneath, the contracture which was already seen generally diffused by means of the action of the first stimulus employed. Therefore, we see here, also, not a special nervous state, but merely a new manifestation of this exaggerated reflex-excitability, which is provoked by the special stimuli employed.

This shows that in all these phenomena of the so-called three stages which in the aggregate are reduced to different manifestations of neuro-muscular hyperexcitability, there are not exhibited those characters which should constitute just so many special and distinct nervous states, but we discover merely the effects of the action of the different stimuli employed on the augmented reflex-excitability—effects that vary, not according to the stages, but according to the nature, duration, intensity and mode of application of the stimuli.

And that this is true, and that these phenomena of the three stages do not merit the value of distinct nosographic characters of nervous and quite different states, has been proved by the fact, of which we have become certain, and by many other observers, who, though loyal fol-

lowers of the school of Salpêtrière, as Maguin, Gilles de la Tourette and Richer himself, have stated that these several phenomena, each of which should be characteristic of only one of the three stages, are, on the contrary, met with in many cases, sufficiently typical of the grand hypnotism, and, indeed, they may be indifferently found in any stage whatever. Thus, the so-called somnambulic contracture has been observed both in the lethargic state and the cataleptic; and the neuro-muscular hyperexcitability of the lethargic has been observed in the somnambulic state, and likewise in the cataleptic (*vide* Gilles). Richer was obliged to create an intermediate state, which he called the cataleptiform, in which the phenomena of the lethargic state are conjoined with that of the cataleptic. And judging from the frequency with which Dumontpallier, Maguin, Berillon, Cullerre, Richer, Marina, Silva and Rainaldi have found these states mixed; in cases of grand hypnotism, we must hold that the mixture of these somatic phenomena in various stages is rather the rule than the exception. If to this we add the frequency with which, on the other hand, in cases of real grand hysteria, the hypnotic manifestations are met with in the form alone of catalepsy, or only in that of somnambulism, or in the lethargic state, associated with the more or less neat and distinct respective somatic phenomena, it appears to us to be fully demonstrated that it is not possible to institute on these phenomena a nosographic distinction of the diverse states of hypnotism, but that they are only so many manifestations provoked by the unique condition which is characteristic of the hypnotic state, especially in grand hysteria, which is an exaggerated reflex-excitability, whose manifestations may be said to vary to infinitude, with the degree of the excitability, and according to the infinite variety of nature, intensity, duration and application of the stimuli employed to bring them into play.

#### IV.

These somatic phenomena, however, not only are not characteristic, as some have believed they are, of the



various stages of hypnotism, and hence they do not justify the classic description by Charcot, of the grand hypnotism which was essentially based on this assumption; on the contrary they are not characteristic even of hypnotism itself. They are, in fact, verified (and this, also, we were the first to show) outside of hypnotism altogether, in the waking state. In the hysterical female Gozzi, studied by Dr. Seppilli and me, we verified the hyperexcitability of the nerves and the muscles under direct mechanical stimulation, also, the cutaneo-muscular hyperexcitability and the paradoxical muscular contraction, even in the waking state.

And in this patient, as in so many others besides, observed in the Salpêtrière, the same state of cataleptic rigidity which is obtained in the hypnotic state, was provoked, when, during the so-called lethargic stage, a very intense stimulus was brought into action, such as the sound of the *tam-tam* in the full waking state.

Brissaud and Richer also had observed in a hysterical woman a state of the muscles analogous to that of hypnosis, that is, a state intermediate between catalepsy and contracture. Charcot and Richer have stated that the contractures of hystericals in the waking state present clinical modalities corresponding to the diverse varieties which are observed in the lethargic and the cataleptic periods of hypnotism.

Maguin reports several cases of grand hysteria, in which there was observed, in the waking state, such a neuro-muscular hyperexcitability as to warrant the idea that, as he says, "no physical construction could respond to influences so slight as those of the stimuli which he put in operation." Charcot, himself, records various cases similar. In a hysterical woman, M—, mechanical hyperexcitability of the nerves and muscles was observed in the waking state, and in another, G—, the so-called somnambulant contracture. In the woman Whittman, who was one of the eight or ten hystericals on whom Charcot based his nosographic delineation of the grand hypnotism,

there were verified in the waking state, an exquisite neuro-muscular hyperexcitability, the paradoxical contracture and contractures provokable even in the muscles of the face. Another hysterical, Malvine, whose case is recorded in the lectures collected by Mallotti, presented in the waking state both the lethargic and the somnambulic contractures, and the same was observed in a case of male hysteria.

What more? In the hysteric woman, Habillon, Charcot reports that he found, in the waking state, the existence of all the neuro-muscular phenomena of the various stages of hypnotism—that is to say, contractions and contractures, from mechanical excitation on the muscles, the tendons and the nerves (lethargic contracture), cataleptic immobility of the joints, placed in the most varied attitudes, and somnambulic contracture, from slight cutaneous excitations. Analogous cases have been observed by Silva, Richer, Ladame, Jaust and Marina, and Brissaud and Richer have observed the facility of producing contractures, during waking, in almost all the hystericals that served for the first researches on hypnotism in the Salpêtrière. It is now, indeed, an admitted fact, that in the waking state contractures may readily be provoked by the most simple means, such as pressure on the nervous trunks, percussion of the tendons, soothing action of the muscles, the application of a tuning-fork vibrating over the skin, etc. This is the so-called contractual diathesis which constitutes one of the most typical signs of the grand hysteria.

Mere somatic phenomena are not, therefore, special to hypnotism; they are also observed during the waking state, and in reality, they may be exhibited in this state in a majority of the cases in which they occur during hypnosis.

In the waking state, also, our personal experience assures us that they may be obtained independently of any suggestion whatever; the manner in which we became, for the first time, aware of them, was perfectly casual.

Now, if these somatic phenomena of hypnotism are undoubtedly met with, and in a manner quite independent of all suggestion, but only in a very limited number of cases of the grand hysteria; if, also, they are not such as to justify the nosographic division into those stages of hypnotism, and are not even special to hypnotism, since they are met with in a pretty notable number of cases in the waking state also, what then at all are they? Our unavoidable conclusion is easy of comprehension. Since they are verified only in a very limited number of the cases of grand hysteria, in the majority of which it is known that they occur also in the waking state, this must signify that whenever these phenomena are obtained, they pertain, not to hypnotism, but rather that they were pre-existing as appurtenances of hysteria, just so many hysteric stigmata, and that this is the fact, is proved by the following considerations, in addition to the reasons already stated:

1st. If they were phenomena special to hypnotism they ought to be verified always, or at the least, if they were special to only the grand hypnotism of hystericals, they ought, at the least, to be verified in all the cases of the grand hysteria. But this is not the fact; unless in a few cases of the grand hysteria they are not obtained, or they are obtained in a very fractional and imperfect manner.

2d. In certain cases, some of the somatic phenomena are not obtained in hypnotism before they have entered spontaneously to make a part of the phenomenal picture of hysteria, as in the patient mentioned by Babinski, in whom it was impossible during the hypnosis to obtain catalepsy by any means whatever, until one day when she was awake, she spontaneously fell into a state of catalepsy, provoked by the unexpected and loud sound of the *tam-tam*, and from that day forward, the cataleptic phenomena were verified in the hypnosis.

3d. The general and truly essential phenomena of lethargy, of catalepsy and somnambulism, may be verified,

either separately or combined, and developed in succession in true and proper hysteric manifestations. Thus, we frequently find that the hysterical fit is manifested in the form of an attack of lethargy, which is characterized by a more or less profound sleep, with anæsthesia, relaxation of the limbs, and in some cases, as Richet has observed, with the phenomenon of neuro-muscular hyperexcitability also. Hysterical attacks in the form of catalepsy, or of somnambulism, are frequent and well-known. In the case of hypnotic disease described by Vizioli, the hysterical fit was distinctly manifested with an attack of spontaneous hypnotism; in which there were observed, in regular succession, periods of lethargy, catalepsy and somnambulism, well characterized by their principal phenomena.

4th. In many cases, hypnotism merely reproduces the phenomena of the hysterical fits to which the patient has been subject. Thus, cases are not rare in which the hypnotic manœuvres provoke a convulsive attack instead of the hypnotic state. In a case of hysterical fits, characterized by an attack of profound lethargic sleep, which I yet have under observance, the hypnotic manœuvres merely reproduce the attack of lethargy. In another case, which I observed with Dr. Algeri, in which the hysterical manifestation was characterized by attacks of somnambulism, these were certainly reproduced with all their phenomena, by means of hypnotic manœuvres. In the cases observed and related by Richer, of hysterical attacks in form of catalepsy, this state was produced immediately by means of the most simple hypnotic manœuvres. Finally, in two cases observed by us, in which the hysterical attack was manifested in form of that particular psychical state which has been conventionally named the second condition, the same state was exactly and uniquely reproduced.

All these facts, therefore, prove that in certain cases of grand hysteria, the hypnotic manifestations are one and the same thing with the hysterical manifestations,

that in such cases hypnotism merely reproduces, neatly and uniquely, the manifestations proper to hysteria, and that, in the same mode, the somatic phenomena, especially the hyperexcitability, the contractures, etc., etc., which, in a great majority of the cases, are met with in the waking state as hysteric stigmata, reappear in hypnotism, as manifestations proper to hysteria, and not to hypnotism, that is to say, as manifestations of the augmented reflex-excitability, which is a proper and essential condition of hysteria in its more grave forms.

But why, it will be asked, happens it that in the majority of cases, hypnotism alone has so brought these phenomena to light as to lead to the belief that they were provoked solely by it? We reply:

1st. Either, because in the hypnotic state only have they been sought for, or, better to say, only then have been put in opération those stimuli (*e. g.*, mechanical, luminous, acoustic, etc.) suited to their exposition, just as happened to ourselves in the case of the hysterical patient, in whom, only after their appearance in hypnosis, did we discover that they existed in the waking state also.

2d. Or because of the more or less augmented reflex-excitability presenting in the hypnotic state, which is in these cases always augmented, *per se*, we succeed better in bringing them into view.

3d. Or finally, because hypnotism (that is to say, the manœuvres for its production) acts in certain cases as a provoking agent of hysteric manifestations, which may be latent, acting in a certain way, in the same manner as injuries or other causes by which latent hysteric diatheses are brought to light.

In our opinion, then, hypnotism, even in the cases of the grand form, does not constitute a neurosis, *per se* (as is held by the school of Charcot), but in such cases it only brings into view some of the pathological phenomena of hysteria, which are all resolvable into manifestations of the morbidly exaggerated reflex-excitability,



phenomena which already pre-existed (even in the waking state) or were in the state of latency.

Hypnotism, therefore, would represent only an exquisite reaction, fitted to bring into view the more recondite stigmata of hysteria (and we might also add, those less frequently met with), among which should be included neuro-muscular hyperexcitability in its diverse forms (that is the property of nerves and muscles to react under the influence of mechanical excitations or sensory stimuli in general, as if they had been excited by the electric current).

In hysterical individuals who do not present, either in action or in latency, such phenomena of hysteria, and still more, in persons not hysterical, or those perfectly healthy, these phenomena cannot be obtained, because they have not pre-existed, that is, there has not pre-existed that high degree of reflex-excitability which is the primal condition for their production; and in such cases neither the methodic manœuvres (that is the adoption of identical conditions of experiments) established by Charcot and his school, nor suggestion itself can produce them, a fact realized by so many observers, who have, therefore, absolutely denied the existence of such phenomena.

This also shows how illusory is the pretence of instituting a nosographic delineation typical of hypnotism, and especially of instituting such on the results of hypnotism in hysterical persons.

As to hypnotism, the phenomena verified may vary to infinitude, according to the subjects, that is, according as we have in hand a case of grand hysteria, or varied and broken forms of hysteria along with their innumerable manifestations; or again other neuropathias, or other maladies, or finally, individuals sound and robust. In this last instance, and in this alone, we shall have the true phenomena, simple, neat, genuine, of the pure hypnotic sleep. But as we gradually ascend the scale of diseases, in other cases, and proceed from the milder to

the more grave forms of hysteria, the pictures of the hypnotic phenomena become ever more complex, but are complicated, not *per se*, but by all that which the pre-existing morbid condition adds to it, or inter-culates with it, and the varied manifestations of this morbid condition are merely brought to light by the hypnotism.

The division into great and little hypnotism is therefore quite unjustified. For, in addition to the circumstance that the nosographic distinction of the stages, by which the former should be characterized, does not correspond to the reality of the facts, we must bear in mind that hypnotism, *per se*, as an artificial sleep, that is, as an effect of certain practices put into operation to provoke sleep, ought to be one sole fact, furnished with very simple and constant characters, and these characters seem to us to be reducible to two, a certain augmentation of reflex-excitability and an augmentation, usually notable of suggestivity; the latter, as we have said, being capable of entering into the former, and the two together producing the state of automatism, which is characteristic of hypnosis. On the other hand, the innumerable forms in which hypnotism is apparently interested, are produced (with exception of the different possible degrees of sleep) only by all that influence which, either the pre-existing conditions or the artificial suggestion, are capable of superimposing on them.

This conception explains the intimate relations which by various neurologists, as Richet, Vizioli, Grasset, Babinski, and Charcot himself, have been recognized between hysteria and hypnotism, as two facts of almost identical nature, without, however, their having by this succeeded in explaining the hypnosis of non-hysterical individuals, and that of sound persons, and the great differences which it presented in the latter.

Hypnotism, therefore, is not at all to be considered as a pathological state; it has neither merit nor blame in all those marvelous and grave phenomena which have led to the imputation of its constituting an experimental

neurosis, for it is not capable of producing them, unless, from a morbid condition, they have pre-existed.

It has been a grave error to believe that the typical phenomenal delineation of hypnotism could be established on observance of the hysterical, as if on a better soil; for though hysteria may, in many cases, present a condition favorable for obtaining hypnosis with greater facility, and especially the psychological phenomena of somnambulism, yet it does not at all present the best ground on which to study the exact physiological effects of pure and simple hypnotism, *per se*, for from the intermixing of its own pathological phenomena, which may be extremely various, the general phenomenal picture is obscured, and that confusion and those dissensions which have hitherto agitated the different hypnotic schools, have been generated.

They have fallen into the error of absolutely denying all that they were unable to see, and of establishing as absolute and exclusive, a nosography of hypnotism in which the phenomena did not belong to it.

It is, however, just to observe, finally, that the same thing has happened in the objective and experimental study of hypnotism, as has often been verified in other scientific researches; that is to say, in searching for facts related to a given order of phenomena, discovery is made of phenomena related to another order, to which too little attention is given. Thus has it happened in the researches of the Salpêtrière. Having observed in hypnotism the various forms of the neuro-muscular, cutaneo-muscular, etc., hyperexcitability, it was held that these were the true and most important phenomena, objective and proper, and specially characteristic of hypnotism, and on these has been established the new nosographic description of the form now regarded as typical, of one grand hypnotism; and thus has the conclusion been ultimately reached, that outside of this one form, every other is spurious, fragmental or simulated. Now the multiplying of researches, the confronting of numerous observances, the

thoughtful and dispassionate valuation, not alone of one order of facts, but of all possibly obtainable phenomena, in their totality and in their most varied manifestations, have led to the conclusion that these phenomena of neuromuscular hyperexcitability are properly not characteristic of hypnotism, but in reality belong solely to hysteria, of which they represent just so many semiological, though rare, phenomena, previously not known. Thus the school of the Salpêtrière, which believed that it had discovered the pathognomonic symptoms of that imagined grand experimental neurosis, yclept hypnotism, is, instead, found to have the merit—certainly no trivial one—nor the less enviable—of having discovered new and more delicate stigmata of the hysteric neurosis. And assuredly the honor of this achievement pertains to Charcot, and he may well add this to his other well-merited title of distinction—that he has been the framer of that science which we now know as Neuropathology.

Before summarizing our conclusions we think we ought to say a few words respecting a special order of phenomena which has been much studied, and especially by us, in hypnotism, and has recently been the subject of some new publications. We refer to the phenomena of respiration and circulation, which may be presented diversely, and especially in the various so-called stages.

From the researches made by Seppilli and myself, it resulted that whenever the cataleptic state was provoked by means of a luminous, acoustic, tactile, etc., stimulus, there was produced a notable modification of the respiratory rhythm (respiratory motions slow and superficial and often prolonged apnœa, together with a manifest constriction of the peripheral vessels, which was well exhibited by the æro-sphigmograph. And when, on cessation of the stimulus, the subject returned to the so-called lethargic state, the respiration became again regular, and the peripheral vessels resumed their prior volume. Now, what does this mean? It is very evident that we have here merely a reaction, in the vasomotor sphere, to the sensory

stimuli, analogous to that which we had demonstrated in the sphere of motility. In the state of complete repose (hypnotic lethargic sleep), when we wish to produce the cataleptic state, we excite the nervous centres of the hypnotized subject, by luminous, acoustic or tactile stimuli, and we obtain that vasomotor reaction which is produced alike in the waking state and in that of ordinary sleep, by the action of such stimuli—that is, the constriction of the peripheral vessels; and this phenomenon lasts as long as the stimulus continues to act; but on its cessation (the return to the lethargic state) the vessels again relax and resume their volume. This reaction, which is, in the subject studied by us, certainly very intense—whether in proportion to the rather feeble stimulus, or in relation to what is obtained in the normal state—is then no other than a further manifestation of that augmented reflex-excitability of the nervous centres, which is a property of the subjects operated on by us, and in those persons it is also increased by the hypnotic state. The same may be said of the changes in the respiratory rhythm, which, as is known, may be considered an æsthesiometric index of the most exquisite sort.

The facts ascertained by us in relation to circulation and respiration are in full accord with all that physiology has demonstrated, and with the conception which seems to us best fitted to explain all the hypnotic phenomena.

But Sciamanna and Torti, in a recent communication, have shown that in *suggestive* catalepsy also, analogous modifications of respiration and circulation are obtained. This fact, however, detracts nothing from the value of our results or of their interpretation. Whether catalepsy may have been produced by means of suggestion or provoked by sensory stimuli, when the real effect of these is the modification of the muscular tonicity, which is denominated the cataleptic state, the results ought to be the same, as in fact they evidently are, so far as regards the phenomena of respiration (*e. g.*, slowing of the movements of respiration and apnœa as prolonged as twenty seconds) which



are most closely colligated with muscular activity. And as to the circulatory phenomena, in which Sciamanna and Torti, by means of the hydro-sphigmograph (an instrument which they have themselves declared to be little suited to mark changes of volume), would seem to have obtained results apparently opposed to ours—that is, augmentation of volume in the vessels of the forearm, on the establishment of suggested catalepsy, and diminution of it on cessation of the catalepsy, we must first of all observe that the cataleptic state should not be confounded with the stimulus which has provoked it. In our observations it is very clear that it is not the establishing of the cataleptic state which provokes constriction of the peripheral vessels, but the action of the sensory stimulus, which, by bringing into play augmented reflex excitability, provokes, at one and the same time, in the motor sphere, the cataleptic phenomena, and in the vasomotor sphere the peripheral ischæmia. This condition is provoked, in this case, during the hypnotic sleep, in the same mode, and according to the same law, as that by which it is verified in ordinary sleep and in the waking state after the action of simple sensory stimuli. In the case of suggested catalepsy it is no longer a sensorial stimulus, pure and simple, that marks its action felt on the vascular reflexes; suggestion is a complex psychical phenomenon, which, in bringing necessarily into play the psychical activity in so far as this can be reduced to a monothistic state, cannot be paragoned with nor have effects identical with, the pure action of a sensory stimulus. That this is the case is demonstrated by the very researches of Sciamanna and Torti, from which it resulted that when, in place of suggestion, they employed a simple sensorial stimulus (as the opening of the eyes, puffing on the skin) they obtained results identical with ours and with those observed by Mosso in normal sleep and in the awake state—that is, diminution of volume in the peripheral vessels; and they obtained increase of volume in these on the cessation of the cataleptic rigidity, in conformity with our results.

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All that has been said holds good also as respects the most recent researches of Morselli and Tanzi, who, by modifications obtained in the respiratory and the arterial rhythm, by means of the operation of pure suggestions, without any mechanical or sensorial excitation, in the strict sense of the word, conclude that "the circulatory and respiratory changes, supervening in hypnosis, are due to suggestion," and hence that "the suggestion should be considered as the true determining factor of the entire phenomenology of the lethargic, the cataleptic, etc., stages." Their results, however will come into conflict with ours in only an indirect way, as they have not, like Sciamanna and Torti, reproduced, by suggestion, the so-called cataleptic and lethargic states, and reported the related tracings: they have merely shown that by means of varied suggestions (such as running, raising weights, vomiting, sobbing, shivering, intoxication; suggested melancholia, mania and stupor suggested) there were obtained great modifications in the tracings of the pulse and of respiration, several of which are analogous to those obtained by us from the action and the cessation of the stimuli which provoked or removed the cataleptic phenomena.

Now the power of suggestion in reproducing analogous objective phenomena which, by direct, simple sensorial stimuli, may be obtained in the various functions during hypnosis, we do not, in a general sense deny. We say, however, that such phenomena may be obtained, and that they are obtained, independent of the influence of any true and proper suggestion, and purely as a direct and exquisite manifestation of that augmented reflex-excitability of the nervous centres which, in part due to the hysteric neurosis, and in part increased by the hypnotic state, explains all those phenomena of hypnotism, from which every suggestive influence may be excluded.

We believe, however, that it is possible in this order of phenomena also, to reach the same conclusion as we have arrived at respecting the motor phenomena; which is, that the respiratory and vasomotor phenomena met

with in the so-called cataleptic and lethargic states, are merely manifestations of the reflex-excitability of the nervous centres—manifestations due to the action or the cessation of the stimuli put into operation to provoke them, and that they are verified in hypnosis, also, in a way not differing in form from that in which the said functions react to sensory stimuli in the physiological state.

## VII.

We now, however, summarize our conceptions in the following conclusions:

1st. The somatic phenomena of hypnotism, described as special to the so-called lethargic, cataleptic and somnambule stages of grand hypnotism (as neuro-muscular hyperexcitability, cataleptic plasticity and cutaneous hyperexcitability) are verified in a limited number of cases belonging to the grand hysteria, and are quite independent of any suggestion.

2d. The said somatic phenomena do not, however, justify the nosographic division into three distinct stages—three nervous states quite different from each other, and each provided with its own symptomatology (Charcot), for they may be found mixed and confused in various stages, and they represent only so many manifestations of the exaggerated reflex-excitability, the variety of which is determined uniquely by the different nature, intensity and duration of the stimuli employed to bring them into view.

3d. The somatic phenomena mentioned are not characteristic of the so-named grand hypnosis, for they are verified (independent, also, of suggestion) outside of this in the awake state, in cases of the grand hysteria in which they are presented as so many hysteric stigmata.

4th. In the few cases in which they are met with during hypnotism they are not therefore the effect of this, but they represent merely the manifestations proper to hysteria, which, under the hypnotic state, either by aug-

mentation of the reflex excitability, or by the stimuli employed, are more clearly exhibited.

5th. Into this interpretation there enters, also, the respiratory and circulatory phenomena, which are met with in the so-called lethargic and cataleptic stages—phenomena which represent but so many manifestations of augmented reflex-excitability, due to the action of the stimuli which have been put into operation for the purpose of provoking them.

6th. Hypnotism is not, therefore, an induced neurosis, for in the few cases in which it has such an appearance it does no more than bring into view pathological phenomena, which, already pre-existent or in a state of latency, pertain to the hysteric neurosis, of which it simply presents itself as an exquisite reaction, or a revealing agent.

7th. Hypnotism is but a simple state of provoked sleep, which has in itself nothing pathological, but only the double property of producing a certain augmentation of reflex-excitability, and a notable augmentation of suggestibility.

8th. The phenomena verified in it may vary to infinity, according as the persons operated on are sound and robust, feeble, diseased, neuropathic, hysterical in simple forms, or in grave forms; but all that in these cases gradually complicates the phenomenal picture is not due to hypnotism, *per se*, on the contrary to pre-existing morbid conditions which hypnotism merely brings into view.

9th. Therefore, the innumerable apparent forms of hypnotism, which have given origin to the distinction of the great and the little hypnotism, etc., are (with exception of the different possible degrees of sleep) furnished solely by that which either artificial suggestion or pre-existing pathological conditions superimpose on it.

## Unrecognizable Brain Lesions.

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By HUGH B. MEREDITH, M. D., Danville, Pa.,

First Assistant Physician to the State Hospital for the Insane.

THE advancement made in brain surgery during the past few years has kept pace with, and even exceeded, operative procedures in other localities. The boldness with which the calvarium is opened, neoplasms removed, ventricles tapped and drained, in parts once considered inaccessible and peculiarly sensitive, is comparable to the recent change of ideas respecting abdominal surgery. The possibility of such achievements has been due mainly to the greater perfection attained in cerebral localization. Not only has the encephalon been studied in reference to distinctive functions, as the higher intellectual faculties, motor areas, those presiding over common and special sensation, and with less certainty other physiological functions, but these have been analyzed and assigned particular offices in the general scheme. For example, it is not only definitely determined that the convolutions bordering the central fissure preside over the muscular movements of the body, but certain groups of muscles have a definite centre within this area as distinguished from the rest of the motor region, and thus we define sub-divisions for the leg, for combined movements of the leg and arm, for the arm, head, face, hand and fingers, mouth and tongue, etc. With such certainty are these centres associated with the function of particular parts that any deflection from the ordinary equilibrium is referred with precision to a special tract in the topography of the brain.

Disturbances may be manifested in two ways, either by a perverted, weakened or annihilated function, or an excessive or explosive manifestation. Accepting this theory of localization the special function must depend



upon a limited aggregation of nerve cells for its proper performance, as we know there can be no manifestation without at least some central operating force. *A posteriori*, an absence or impairment of such function when referable to the central organ, must depend upon an impaired integrity of that part.

In destruction of cerebral centres through inflammatory or nutritive changes, we should be able to define the exact position of the central lesion by studying the daily changes in progressive functional impairment. This variety of degenerative change, however, is apt to be diffuse in character, and not limitable to a single centre, so that differentiation is more difficult, and at best referable to a general region, with points of greatest distinctiveness in the particular one.

In lesions causing exaggerated or explosive manifestations however, the exciting factor producing the irritative discharge of nerve force, is more limited in character. Such an exciting cause is seen in the various neoplasms to which the encephalon is liable. Here the abnormal process is directed against a limited area, which if contained in the motor region, must affect particular muscles or groups of muscles. As the cells of one centre are not isolated by an insuperable barrier from those of a contiguous centre, but are more or less intimately associated, a transmission of the abnormal motor impulse may take place from cell to cell, and thus in a measure secondarily implicate these centres, involving thereby a larger area, but yet not disposed to become general; moreover, is distinguished by each repetition presenting mainly the same succession of phenomena, the part primarily affected denoting the initial lesion.

In the latter variety of cerebral disturbances we frequently have associated more or less of the other type, the degenerative change appearing later as a sequela of the new growth whereupon the causation may become obscured. In this event the explosive phenomenon either gives place to or is modified by the impairment of

function due to nutritive degeneration. In this we must distinguish between the temporary loss of power arising from exhaustion of excessive muscular action following an explosion, and the permanent result of a degenerative brain lesion.

The possibilities are not only confined to the cerebral cortex, but the tracts of associating nerve fibres, and those connecting the gray substance with the periphery, are known to such extent at least, that the site of lesions at the base of the brain can be readily defined. With this knowledge at hand the exact locality of a disturbing lesion can be mapped out as clearly as though upon the surface of the body and visible to the eye, so that in operative procedures the surgeon needs but to consider the nature of the lesion, whether diffuse or circumscribed, upon the surface or more deeply imbedded, or beyond his reach at the base of the brain. This is probably the generally accepted doctrine and deductions therefrom respecting localization of to-day.

Clearly defined as this knowledge appears, *post-mortem* examination frequently reveals lesions whose existence was not suspected during life. The question arises how could they have existed without manifestation if other cases so clearly define the function of local regions? Through inability to explain this apparent discrepancy the tendency is toward a loss of faith in cerebral localization. Ferrier says, "a case, however otherwise complicated, of total destruction of a region in which a certain function is supposed to be localized, without loss or impairment of the function assigned to it, outweighs a thousand positive instances in which a casual relationship seems to be established between the particular region and the function in question."\*

Want of confirmation between physiological experiment and clinical evidence should at least teach us that localization is, as yet, not an exact science. Reports have been made of various gross lesions found, *post-mortem*, that existed in life

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\* "Function of the Brain," P. 270.

without special manifestation, at least such as would in any way localize them; and if these premises are correct, it is fair to presume that innumerable cases may have existed in which gross lesions were not discovered through absence of clinical signs to call forth such examination. Of the notable cases occurring in this institution, one was a tumor of the right hippocampal lobule, associated clinically with epileptic convulsions and strabismus, but without loss or impairment of the special function,\* and the following case:

M. T., admitted to this hospital June 13, 1887. Female, age about 40, civil condition unknown. No history save that she is an epileptic.

Physical characteristics—height about 5 feet 7 inches. Spare habit, rather thin in flesh, black hair, dark brown eyes, set close together, dark complexion, pulse and physiological functions normal.

Mental condition such as is usual to epileptic insanity. Is over solicitous and persistently asks concerning her bodily health. Memory somewhat impaired, as are also the reasoning faculties. Originally below the average intelligence, yet can read and write fairly well, speech not affected, no verbigeration. Is irritable, resentful of supposed or trivial wrongs and subject to periods of maniacal excitement, during which she is dangerous to those around her. There is nothing noticeable in her condition other than that found in ordinary epileptic insanity.

No detailed history of this case was kept except a record of the number of fits. These varied considerably, being entirely suppressed for one or two months at a time, and then suddenly increasing in frequency. During Dec., '89, Jan. and Feb., '90, appears the greatest number, 22, 28, and 23, respectively; and the four succeeding months, 16, 5, 9, and 8, respectively; during the entire time of residence averaging about ten per month. The seizures were of grand mal type, and always occurred singly. No aura could be elicited. The onset was occasionally sudden and without warning, but more

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\* *Journal of Mental and Nervous Diseases*, April, '91.

usually the attacks were ushered in by loud screaming, a blind running forward, and if coming in contact with anyone, holding them in a vise-like grip. Then followed total loss of consciousness, and heavy falling to the floor, the succeeding convulsive movements being severe and general without apparent origin in any group of muscles. The seizures ended in deep coma, lasting from a few minutes to a half-hour, after which she rapidly gained her normal condition; occasionally there was succeeding dullness lasting for several hours, and less frequently the seizures were followed by maniacal attacks, as mentioned above.

Without any previous change in her condition, on the morning of June 23d, she was found to be semi-comatose, apparently not comprehending what was said to her, and could not be induced to take nourishment. No paralysis noted, pulse weak, condition suggests probability of nocturnal fit.

June 24th and 25th.—Symptoms unchanged, fed with nasal tube which occasioned much resistance without complete return to consciousness.

26th.—Drank a small quantity of milk; at first slowly and with difficulty, pulse very weak. Ordered spt. frumenti  $\bar{3}$ ss. every three hours, and milk  $\bar{3}$ iv. every two hours, which was fairly well taken.

27th.—Increasing signs of consciousness; asked for another epileptic with whom she habitually associated when in health. Decided right hemiplegia is noticed. Drags foot slightly, arm only capable of coarser movements, aphasia, tongue protruded in straight line, face not affected and muscles of deglutition only slightly, if at all. Mind confused, spread butter upon the tablecloth instead of the piece of bread in her hand, requires assistance in eating. Has been much excited and persistently attempts to leave the room, the mechanical force necessary to keep her quiet being considered more detrimental than freedom of movement, is allowed to be in the hall, where she walks aimlessly about.

28th.—Increasing loss of power and danger of falling makes it necessary to keep her in bed by mechanical means.

29th.—More stupid and helpless, now unable to leave

her bed, but is restless. Takes a fair amount of liquid nourishment.

July 12th.—Condition has gradually retrograded with brief periods of semi-consciousness in which she protruded her tongue on request and opened her eyes when spoken to, now swallows with more difficulty, and hebetude is marked. Complete paresis of right arm with flexion of fingers upon the palm. Right leg can be drawn up slightly. Decubitus dorsal, 9 A. M., p. 96, temp. 100.7; 5 P. M., p. 116, temp. 100.5. The progressive nature of the paralysis indicates softening in the left Rolandic region, from hemorrhage or more probably embolism.

13th.—9 A. M., p. 132, temp. 101.2; 5 P. M., p. 130, temp. 101.5; resp. 25. Breathing assuming Cheyne-Stokes variety. Sweating profusely, cannot be aroused. Has taken 1 pt. of milk during the day.

14th.—A. M., p. 116, temp. 101; resp. 24: P. M., p. 140, temp. not taken. Swallowed but a few spoonfuls of milk.

15th.—A. M., p. 140, temp. 103.2, resp. 36. Gradually sank and died at 2 A. M. July 16.

Autopsy, 9 hours after death, temperature of room about 70°. Rigor mortis well developed. Body emaciated, well preserved by embalming fluids (arsenic, zinc chloride).

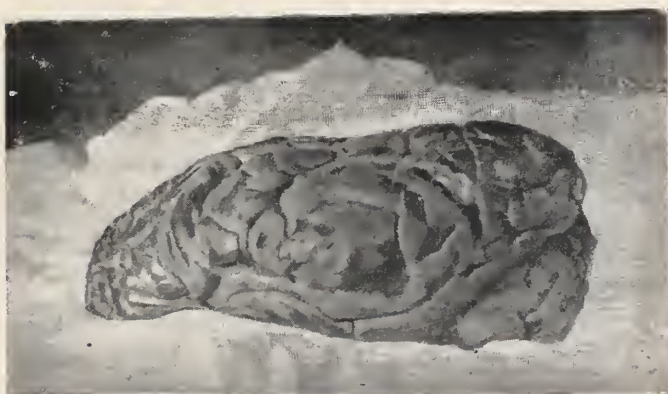
On palpation of head a sulcus is plainly perceptible in the line of the coronal suture and most marked at the site of the anterior fontanelle, probably a congenital defect. Scalp normal, rather free from blood and exuding injected fluid. Calvarium shows the suture in remarkable prominence, the frontal being equally defined. Corresponding to the depression felt through the scalp, is a depression of bone in the line of the coronal suture, most marked at the junction of the right coronal and sagittal, where it rather exceeds one-sixth of an inch, and of about the area of a dime. Internally is a slight protuberance of surface, but not sufficient to cause pressure symptoms. The sagittal suture is depressed about one-twelfth inch, forming a groove in its entire length. Posterior fontanelle depressed, though to a less degree than the anterior. Calvarium removed without difficulty. Bone, as is usual in epilepsy, increased in weight and thickness, with much spongy material. Grooves



for vessels well defined. Brain well filling skull, little escape of blood or serum on its removal. Vessels and sinuses of dura engorged with dark clotted blood, otherwise normal. Pia-arachnoid thin, easily torn in removal, adherent over area of softening, and likewise much engorged, minute vessels showing prominently.

Right hemisphere of firm consistence and presenting nothing unusual.

Left hemisphere.—Ascending frontal, ascending and superior parietal convolutions are much flattened, thinned, sulci shallow, presenting a soft and fluctuating appearance, noticeable even on slight shaking of table. Occupying the centre of the operculum, or anterior portion of supra marginal convolution, is a rounded body about the size of a pigeon's egg, standing out prominently and encroaching upon the sylvian fissure. Its position was subcortical, the thinned and softened cortex being fissured and separated over the tumor, from handling. Extending upward and somewhat posteriorly from this tumor was a cavity containing 3vii. of clear straw-colored serum. Its wall was formed of a distinct and easily separable membrane, which was much congested, contained many enlarged vessels, numerous points of hemorrhage and petechial spots, the largest of these hemorrhages being a recent clot of the size of a pea. A similar clot was also found adhering to the edge of the tumor. The brain tissue surrounding the tumor and cyst had undergone white softening, being diffuent and easily washed away by a slight stream of water. The area of this destruction coincided very closely with the external appearance of softening, and involved that portion between the angular gyrus and fissure of Rolando, extending downward well toward quadrate lobe. After removal of tumor and cyst a cavity remained of about the size of a hen's egg, and included within its limits the entire region of common sensation and a large portion of the motor area. The brain tissue contiguous to the cavity was more or less softened and disorganized, thus still farther extend-



SHOWING SITUATION OF TUMOR.



ing the destructive lesion. The operculum anterior to the tumor was of abnormal firmness and of a pinkish color, and evidently participated in the pathological change, rendering the condition most unfavorable for removal had the tumor been located. Basal vessels normal, remainder of brain healthy though rather anæmic. Autopsy not pursued farther. A photograph was taken of the tumor *in situ*, which is here reproduced.

On microscopical examination it proved to be a round-celled sarcoma.

The clinical history of the last illness, which was further supported by the autopsy, clearly denoted a breaking down of the left motor region, with the point of greatest destruction in the centre for the hand and arm. In addition, the unsuspected tumor found in the centre for movements of the tongue and angle of mouth might account for the aphasia that developed in this illness. It is probable that the formation or extension of the cyst and the resultant softening of the surrounding structure occurred coincidentally with the paralysis, but that the new growth was of longer standing, its development being announced by the accession of epilepsy. That it should cause the convulsive seizures can be readily understood, but in the light of cerebral localization would one not expect the motor phenomena to resemble the partial or so-called Jacksonian epilepsy, rather than the true form? From the position of the tumor, according to Ferrier's scheme, there should have been constant ataxic aphasia (through loss of control of the movements of tongue) and an inability to retract the opposite angle of the mouth, and all convulsive phenomena should originate, and their greatest intensity centre, in these parts. On the contrary the clinical history not only showed an absence of these peculiarities, but an epilepsy indistinguishable from any other, which proves the assertion that while many lesions can be readily located by their clinical symptoms, others exist without appreciable manifestation.

## On a Rare Form of Hystero-Epileptic Convulsions, Occurring at Long Inter- vals.\*

Remarks by PROF. A. TEBALDI.

ON the 19th of March there was brought into my clinic, in Prof. Luzzato's ward, a youth with convulsions, accompanied by such strange actions, that, owing to the agitation produced among the patients, he had to be removed. On the morning visit he was found perfectly quiet and conscious, so that from his own testimony and a physical examination, we were enabled to collect the following facts:

Zilivito Antonio, aged 25 years, is a good-looking, well-nourished and well-developed youth, of delicate physiognomy, with a few hairs about the chin and upper lip, and of a somewhat feminine type. His voice, too, is soft. There are no marked deviations in the cranio-facial proportions, but on an examination, by the facial and vertical standard, there was revealed an asymmetry, the face being slightly oblique from above downwards, and from left to right, having a slight left parieto-frontal plagiocephalia, and a compensatory development on the opposite side. The face, therefore, is somewhat arched, with the convexity to the left.

From a psychical point of view, his intelligence is mediocre, his character mild, as could be gathered from his account of his illness and from his conduct during the sojourn in our clinic.

Reserving to myself a more accurate examination, I interrogated him concerning his past history, and learned that he had suffered from no disease in childhood, and had never had convulsions. Of his parents, his father is still living and has no nervous disease; his mother is dead; he cannot tell of what she died, but she was not subject to convulsions.

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\* From the *Archivio Italiano*. Translated by SUSAN P. BOYLE, M. D., Toronto.



For four years he was a soldier, employed in the telegraphic service, and in the discharge of his duty was sometimes confined in-doors, without permission to go out.

In Florence, one day, on the Square Signoria, he fell and would have suffered grave injury to his head, if, by chance, he had not fallen with it on the foot of a gentleman. His companions raised him and held him with difficulty, owing to the prevailing clonic convulsions. Showing by movements of his tongue and contortions of his face, which he turned in a direction in which water could be seen, that he suffered from an intense thirst, they allowed him to drink in large quantities.

He was conducted to the military hospital, where similar fits were twice repeated in the space of a few hours. He is certain that he entirely lost consciousness during the convulsion, and says that after the third attack he experienced an indescribable tiredness in all the muscles.

Since that time he has not been troubled with them, has no indications of any like attacks, no nocturnal losses of urine, no vertigo, and he presents no signs of having bitten his tongue. On the 26th of February, 1889, having had a disappointment in love, he swallowed a mouthful of benzine, about a hundred grammes, which placed him in peril of his life. On his recovery he complained of a pain remaining in the abdomen. Obtaining a short leave of absence, he left Florence for Venice, but at Bologna he commenced to observe a sense of *malaise*, which brought to mind that of four years previously, when he had been seized by a fit, and more especially the sense of thirst, which now began to make itself felt. At the Ferrara station he alighted to satisfy this thirst, drinking a large quantity of water, and did likewise at Padua, where, however, feeling the illness becoming worse, he decided to enter the city. While traversing a bridge which leads to the center of the city, the thirst became so overpowering on seeing the water, that in order to save

himself from the impulse he experienced, he had to pass hurriedly over the bridge and keep far away from the parapet. Distressed and breathless, he arrived in the square, and in crossing it he was seized by a convulsion, and not being recognized as an epileptic, he was taken charge of by the police and conducted to the city hospital. He was placed in a ward of common diseases, but on another fit arising, so much agitation was produced among the other patients that he was removed to the psychiatric clinic. When he came into the clinic he was conscious, but did not remember the two convulsions he had had, the one on the square, the other in the hospital ward.

On the following morning, the convulsion was repeated, commencing at 5 o'clock and lasting till the 8 o'clock visit.

To shorten the story, he says the first sign that warns him of the approach of a fit is a sensation as if serpents were encircling his body in the umbilical region, whence they crawl upwards to his throat; then he experiences a peculiar sensation in his lips, palate and nostrils. This latter resembles tickling, and causes him to rub his nose energetically. He says that besides this he has a feeling of horripilation in the occipital region, and after this the fit explodes.

The attack consists of violent general clonic convulsions; the head participates in the lateral movements, the eyes are staring, a little froth is around the mouth, and he is moist with sweat; the face is drawn into an expression of terror, from the strong tension of all the muscles, and the lips and tongue present movements as of sucking. It can be easily seen that he pants for a drink of water, and when this is brought near to him, the desire becomes greater, so anxious and violent as to give a picture of one of the most horrible torments of man, viz., extreme thirst.

The precaution having been taken to cover the mouth of the porringer with a piece of linen, he seized it and

drank the contents with the greatest avidity. He says that in one of his earlier fits he squeezed the bowl so tightly between his teeth as to break it to pieces.

We were sorry to have been unable to photograph the patient in one of his attacks, as it would have served as a most exquisite example of the expression of rabid thirst.

Consciousness is met with in this patient in two forms. In the first convulsive period, which is similar to a fit of *grand mal*, it is entirely lost, but in the second stage, in which thirst and an impulse to search for means of satisfying it are the dominating factors, consciousness is much obscured, but he confusedly perceives what is taking place around him, the fit at this time more resembling one of hysteria. Thus, he hears the steps of the attendant who is bringing him another bowl of water, and he shows this by turning his head to the side whence proceeds the sound. People seem to him like shadows and he cannot distinguish them. His sensibility is excited so that he has, besides the sense of thirst, vivid hallucinations. He says that when he hears the approach of the attendant who is bringing him water, he can smell the water, and that it has an odor like sulphur.

The fit, after this great ingestion of water, gradually subsides, and the patient quickly and completely regains consciousness. A sleep of three-quarters of an hour follows the fit, which in all its stages lasts three hours. He is bathed in perspiration and feels dejected and weak. His muscles are in a state of complete relaxation and he cannot support himself on his feet, several days being required before his strength completely returns.

His temperature was taken after the attack, and was not found increased, but he declares that at Florence it was found to have risen to 41 C.

After the attack there remains a pain in the sternal region and around the umbilicus, the place from which departs the sensation that initiates the fit, and which may be called the point of departure of the epileptic aura. Pressure on the umbilical region causes pain, but

does not provoke a fit, and the pain is accompanied by fatigue and exhaustion.

Some muscles present a little rigidity and pain on pressure, as for instance, the left sterno-cleido-mastoid, and owing to this the head is slightly drawn to that side. The knee reflexes are increased, but the foot phenomena are not present.

The urine is of neutral reaction, presents abundant phosphates, more than normal quantity of chlorides and no trace of albumen.

The day after the third convulsion the muscular weakness still persisted: he could not stand. The movements of prehension were very weak, the manometer scarcely marking 20. He can however write a fairly good, sensible and affectionate letter.

The patient feels certain that the fit will not be repeated: he generally has two of them, and then for four years experiences no more. He notices, however, that on this occasion, the convulsion anticipated its due period by a month, perhaps owing to the effects of the poison he had taken, after which he always had an uncomfortable sensation in the abdomen.

Having completely recovered, and wishing to go to Venice, he was discharged a few days after his entrance, and since then we have heard nothing of him.

Without doubt the case reported is, in many respects, worthy of examination; it presents an uncommon form of epilepsy, and while being in reality epilepsy, in its symptoms it is altogether peculiar, and it combines various features common to epilepsy and hysteria, without presenting the complete form of either of these diseases.

We were not able to find any hereditary taint. In the examination of the patient we found a cranio-facial asymmetry, with plagio-cephalia, an anomaly which may be due to premature ossification, especially of the base of the skull, recalling the case illustrated by Laségue, an anomaly which, according to this author, predisposes to epilepsy.

As to the proximal causes we see that our patient was of an emotional disposition, and the fact of his having poisoned himself, from a disappointment in love, shows him to have been a neurotic individual.

If we can believe the story of the patient, the epilepsy must have shown itself late in life, viz., at puberty.

His love trouble and the succeeding act of desperation prepared him for the second convulsive attack. In this case we have an emotional momentum which is bound up in organic life with the sexual functions, and it is clear that anyone who would designate such a force as one of moral essence, would simply be using the synonym of a physical case.

Not less singular is the initiatory period of the fit, the sense of discouragement and depression preceding and preparing in some measure for the convulsive stage. The first physical disturbances noticed by the patient were in the umbilical region, beginning with a sensation so well described by him as being like serpents crawling in circles round him, and mounting upward to his throat. To this feeling succeeded that situated in the mucous membrane of the palate and nostrils, owing to which he was obliged to rub his nose.

The fit differed from that of the common form of epilepsy, in consisting of two distinct phases, the first of these being a period of clonic convulsions with brief unconsciousness, and accompanied by symptoms in all respects similar to those of an ordinary convulsion; the second stage, more prolonged, and presenting a salient feature in the awful thirst which impels the patient to rush wherever, through his clouded vision, he can discern the means of satisfying it. In a struggle, which at times took place between the thirsting sufferer and assistants who did not rightly interpret his wishes, he displayed great muscular power and a most expressive mimicry. The patient did not give us the idea of being one afflicted with polydipsia, but rather of having a canine



thirst which could be quenched by an abundant and rapid ingestion of water. The peculiar state of consciousness in the second stage is worthy of note and may be likened to a clouding of the intellect (the *dämmerzustände* of the Germans).

In this state the patient has confused impressions of the external world, but these become more vivid as his ardent thirst is satisfied.

This prodromic and consecutive thirst has been observed by others, but never perhaps in a similar degree of intensity. From a scientific point of view it is to be regretted that similar cases do not occur oftener, as they would aid not a little in the elucidation of the physiological problem of thirst.

The general relaxation following an attack of epilepsy has been noted by many authors, and Hughlings Jackson believed it to be due to exhaustion of the nervous centres. In our case this relaxation was so pronounced that for two days he was unable to stand. As is natural the relaxation was, in our case, more noticeable, and lasted longer, in the lower extremities. It may have been a state of transitory paralysis, such as occasionally follows attacks of partial epilepsy.

The exaggeration of the knee reflex stands in direct contradiction to the conditions found by Westphal, Gowers and others, in whose cases it was abolished.

With a complete return to consciousness the patient manifested a conviction that after the third fit he would have no more, and that he would now be free from them for four years. We hope his presentiment may be realized. It is probable that this idea was implanted in his mind by the military doctor at Florence, who assured him that he would be free from fits for four years. At all events the case is worthy of note, as presenting a form of hysterio-epileptic convulsion with an interval of three years and eleven months between the attacks, as happened between the first fit in Florence and those observed in the clinic at Padua.

It is well to note that our patient, on his recovery from the paroxysm showed an intelligence above the ordinary, had no signs of degeneration, and was guilty of no prevarications or like faults. If anything was particularly striking about him it was the somewhat feminine psycho-physical character and an exquisite moral sensibility which accorded with this. He is an individual who could be designated as emotional. The short time allowed us to observe him did not permit us to ascertain any special psychical characteristic common to hystero-epileptics: this much is certain however, that the period immediately succeeding the fit was not marked by that torpor of intelligence which is common in such cases, that he was prompt to respond to any questions concerning his past, and his having well fulfilled the duties imposed on him by the profession he had embraced after being discharged from the military service, causes us to think that the malady from which he suffered at long intervals had not deteriorated his intellect.

Furthermore the syndrome developed in this case cannot fail to be interesting to the neurologist, from the multiplicity and strange association of the symptoms which make it an uncommon case: these symptoms bring before us certain particulars which relate to the higher questions of physiology and physio-pathology.

Two facts particularly are worthy of note in this history. One refers to the physio-pathological question of epilepsy; and the other may prove an important contribution to physiology, as to the sensation of thirst and its relation to neuropathic phenomena.

As to the first, if, on careful observation of the individual who has violent epileptic convulsive attacks we find him perfectly healthy in the long period intervening between these attacks (from three to four years) it is certain that none of the modern physio-pathological conceptions of epilepsy can furnish a perfect explanation of the fact. We will not touch on the question of the seat of the disease, nor whether the facts support the

bulbar or the cortical theory, but confine ourselves to the theory of the nature of epilepsy itself.

What is the initial momentum which arouses this latent tendency to awake in such an exquisite similitude of epilepsy? To what region, or better, to what nervous element must we turn our attention in order to trace the nature of the epileptic malady? In the present case, emotion certainly held the highest post amongst the predisposing causes.

Had we epilepsy of the constant form, the expression of an organic change; or had we an epileptogenous constitution, which, under certain psycho-physical conditions, shows itself in its more violent manifestations? Did the impulsive acts in this case represent the same cerebro-spinal changes as those which are present in a fit of anger or in any passion whatever? And if there be only a difference in degree, who will determine that difference? All these questions, presented to us by these remarkable facts of epilepsy, recall to our mind the theory of some modern pathologists, according to whom epilepsy embraces such a wide range of psycho-physical diseases that we must either believe that everything is epilepsy in the field of nervous excitability, or that epilepsy does not exist at all. As to the fact of intense thirst presenting itself as a premonitory sign of epilepsy, our case is not the first having this symptom, but it is certainly one of few. Herpin reports one such case, and he is quoted by Winslow. As to others, as far as I can ascertain, none are known; however it is not the fact itself which interests us, but the interpretation of it. The question naturally arises as to whether the thirst is the real primordial fact, or whether it is only the first perceived. In what morbid condition has this thirst its origin, and what is its relation to the genesis of epilepsy?

We wished to institute a series of researches on our patient, but, immediately on his recovery he was so anxious to return to his home that we were obliged to forego our desires.

Studies of the action on the nervous centres of blood impoverished by water, which cause pronounced reflex phenomena in animals; the action of some substances such as kreatine, kreatinine, phosphates, etc., on the cerebrum, all of which are capable of producing tetanic convulsions, gave us an incentive to make observations and perform experiments on our patient, which we would gladly have done, if we had time to do so. This much we know from the features of the fit, that a powerful emotion, concentrated, prolonged and painful, appeared to be the pathogenic momentum of the convulsion, of which the burning thirst was the appreciable precursor. It is certain that in the pathogenesis of epilepsy, as of all the neuroses and phrenoses, emotion holds a most important post; the more deeply-seated processes which are brought into action by emotion, capable of causing such grave disorders, are still not known, or it would be better to say, we are still very far from being able to explain them. The vasomotor phenomena, which are an easily appreciable means, are not sufficient to explain all the modes of genesis of a neurosis. Chemico-therapeutic processes, the disorganization resulting from wounds, or from spontaneous morbid conditions in the excito-motor centres constitute an accumulation of facts which are still obscure in the realm of the pathogenesis of the neuroses and phrenoses. Epilepsy, from this point of view, is still a *terra incognita*. It is easy to note the peculiarities of a fit, but not so easy to discover the processes giving rise to them. Among the causes, emotion is certainly one having great value, as the present case shows clearly. To this may be added the fact of the repetition of the epileptic manifestations at long intervals of time, and always at a time of emotional excitement.

In our case the well-marked emotional character of the subject, the sentimentality, which led him to attempt suicide, and likewise some physical features, gave to the neurosis a tint of hysteria, so that it might be assigned

to the mixed zone between epilepsy and hysteria, and such we hold it to be.

This latent epileptic potentiality justifies the modern conception of epilepsy, a conception which regards it as an expression of extreme excitability of the nervous centres in reacting to stimuli, rather than a disease with a fixed seat and constant phenomena. This idea will also apply to hysteria, with which epilepsy has much affinity. We will then have, epileptic, hysterical, and mixed constitutions, and not the restricted and classic delineations, of epilepsy and hysteria.

In support of this theory and as an example of these awakenings of the epileptic tendency at long intervals, I have deemed these notes worthy of publication.

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## THE INSANITY OF PUBESCENCE.

By G. R. TROWBRIDGE, A. M., M. D., Danville, Pa.,

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THE insanity of pubescence, though a distinct psychosis, is very often confounded with other forms of insanity, the reason for this probably being, that at its onset it is not recognized as insanity, but simply as a consequent condition attending that great change which the entire system undergoes at puberty, and on this account the admissions of these cases to hospitals for the insane in their early stages are rare, and in the majority of instances a very considerable length of time elapses after the commencement of the disease, the commitment to the asylum being delayed with the idea and hope that the child will regain its normal equilibrium after the stage of puberty has been passed; or indeed the individual may pass through one attack, apparently regain a mental balance, and a second attack is not associated by the friends with the first.

Such being the case it is not surprising that errors in diagnosis and classification are made, and we find the insanity of pubescence masquerading as primary dementia, masturbatic, menstrual or moral insanity, and often even diagnosed as simple mania and melancholia.

Bucknill and Tuke, in regard to the insanity of pubescence, say:\*

As a matter of fact, however, we know that our asylums do not admit any considerable number of cases at the age of puberty. The explanation is, that the abnormal mental condition which originates in the evolution of the reproductive system at pubescence is not usually manifested in a way which brings a youth to an asylum. He may be expelled from school for strange conduct, for stealing or for dangerous impulses, but he is probably not regarded in any other light than a wicked boy.

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\* "Psychological Medicine," 3rd edition, page 343.



Clouston considers puberty as the first dangerous period in life as regards the occurrence of insanity, though he does not consider it as dangerous to the individual as the period of adolescence.

Puberty, undoubtedly, is a most important epoch in the life of an individual. It is essentially a period of evolution and involves a most extensive molecular change, affecting not only the reproductive organs but the entire system and its functions, and especially is this manifest in the brain and nervous system.

The boy is slowly developing into the man, the girl into the woman, and with this process of evolution come the changes in character, habits, desires, tastes, etc., which are to mould and guide the individual in his future life, and make him or her a bane or blessing to society.

The insanity of pubescence, which may develop between the ages of fourteen and twenty, might properly, I think, be divided into two classes, one a simple psychoneurosis, which is a slight and but temporary disturbance of the mental balance, and in a short time, with proper care and attention, disappears once and for all; and a second, which is a true psychosis, the beginning of a mental deterioration and an incurable mental disease. It is the second class which I shall consider in this paper.

What may be the exciting cause of the insanity of pubescence it is sometimes hard to determine, but in a large number of cases it is a fact that improper training, over-indulgence of vicious habits, an unrestrained temper, at a time of life when reasoning power, tastes, judgment, habits and, in short, the entire being is going through a process of reconstruction and consequently subjected to a most severe strain, exert a powerful influence. The future of the individual, at the period of puberty, hangs as it were in a balance, and very often it requires but a slight impetus to carry it over the border line between sanity and insanity.

I firmly believe that the influence of the parents on the child at this period of life shapes to a very great extent

its future, and in a large number of cases those habits and tastes are formed which are providing material not only for our insane asylums but for reform schools, prisons and even the gallows. Vicious and unreasonable, or on the other hand over-indulgent parents, will produce in a child a spirit of obstinacy, disobedience or rebellion which will predominate over the better instincts and feelings, and make a beginning from which spring those traits and habits which destroy the physical, moral and often mental balance.

Forced education in a measure exerts an influence at this time; and though I think the harm done by it is more evident in the physical than in the mental functions, it is certain that a weak and perverted condition of the former is a very material aid to the unbalancing of the latter, and it might therefore be considered as one of the predisposing and sometimes an exciting cause.

Probably the greatest factor in the causation of the insanity of pubescence is heredity, as in the great majority of these cases there is a family history of insanity. I think however that the word heredity should, in this connection, be used in its broadest sense, *i. e.*, should include those perversions of character, morals, habits, etc., in the ancestors which, though they do not necessitate the restraining of the individual in an insane hospital, are nevertheless of sufficient influence to produce in future generations this form of mental derangement.

Clouston,\* in regard to heredity as a factor in the production of insanity of puberty, says:

The hereditary influences and tendencies that all the former generations have transmitted to a man come then (at puberty) most fully into play. And when we consider for a moment that it is not only his father's and mother's own inherited tendencies that may come to him, but their acquired peculiarities as well, and not only so, but the inherited and acquired peculiarities of his four grandparents and his eight great-grandparents—not to go any further back—how great a risk does every man and woman run of suffering for the sins of their fathers!

\* \* \* the insanity of puberty is a strongly hereditary insanity; it in fact never occurs except where there is a family tendency toward mental defect or toward some other of the neuroses.

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\* "Mental Diseases," page 369.

Dr. Gershom H. Hill\* says, in regard to heredity in all forms of mental disorder:

No disease is more hereditary than insanity. In every child we expect to find a more or less family resemblance. As the organism develops characteristics of parents and other relatives are certain to crop out.

This writer also calls attention to the importance of the period of puberty in connection with development, and also the influence which is brought to bear on the child, by the parents at this age.

I consider it a matter of some doubt as to where we should properly class this form of insanity. Its appearance at this important epoch of an individual's life partially distinguishes it from other forms of mental derangement, but at this same period occur those psychoses known as "masturbatic," menstrual and "moral" insanity, and though a number of the cases of the insanity of pubescence develop the habit of masturbation, and in the large per cent. the morals are perverted, it could scarcely be classed with them. In its inception it shows various conditions, appearing as melancholia, mania or stuporous insanity, yet its chronicity forbids it a place with these.

Blandford† says: "It is an insanity characterized by conduct rather than delusions," and from this I think he would place it with moral insanity. Spitzka‡ classes it with senile dementia under a division of "insanities attacking the individual in essential connection with the developmental or involutional periods."

Considering it from a physiological stand-point, this would certainly be a correct classification, but on the other hand, if it is considered in its clinical aspect, it might be placed under a totally different head.

Taking into consideration the course of the disease, I do not think it would be wrong to class the insanity of pubescence with the periodical psychoses, as in the major-

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\* "Prevention of Insanity."

† "Insanity and its Treatment," page 223.

‡ "Manual of Insanity," page 126.

ity of cases it assumes a periodic or recurrent form, *i. e.*, there are lucid periods of variable length, occurring at varying intervals, in which the patient is in an apparently normal condition, alternating with periods of depression or excitement, or all three stages—depression, excitement and a lucid interval may be present, constituting a typical case of circular insanity.

Spitzka\* gives the following description of periodic insanity:

Periodic insanity is characterized by recurrence of mental disorder at more or less regular intervals; the attacks being separated by periods during which the patient presents a state of apparent mental soundness.

He also says that the outbreaks of the periodic insanities is coincident with "certain physiological periods," and that "this is notably the case with those periodical disorders of females, which either precede, concur with or follow the menstrual period, and which are sometimes designated as menstrual insanity."

Dr. Burr† calls attention to the periodicity of the insanity of puberty, as follows:

I would lay stress on the periodical nature of this malady. All well-marked cases present a recurrent form. There are periods of elation, periods of depression, and, in many cases, lucid intervals of considerable duration. The periodicity indicates the essentially degenerative nature of the disease.

In three cases reported by this writer, the three typical stages of circular insanity were present, while in others was shown a lack of moral perception.

I believe with Dr. Spitzka, to make a distinct clinical form, called menstrual insanity, is stretching a point, as in the majority of such cases the cause is an hereditary taint, and not the mere disturbance of this function, though it may be, and probably is, a factor. Further than this, the insanity of puberty partakes of that extremely broad term, "moral insanity," and though such a condition is an accompaniment of many forms of insanity, I think it is especially marked in this. It is rarely that a case of

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\* "Manual of Insanity," page 267.

† *American Journal of Insanity*, January, 1887.

insanity of puberty occurs without a perversion of morals, a failure in the power of discrimination between right and wrong, and an overbearing and aggressive demeanor. In the male this "moral perversion" shows itself in many ways, viz., homicidal tendencies without reason, cruelties to animals, a constant desire to trouble or disturb others, etc., etc., while in the female we have that erotic condition showing an utter lack of modesty or decency, lewd or disgusting language and suggestions, and boisterous and noisy actions. I think, as a rule, these conditions are present during the maniacal stage of the disease.

Another characteristic common to both sexes is the self-importance assumed by the individual; their actions, conversation and general bearing giving them a ridiculous and unwarranted egotism.

The following are three typical cases of the insanity of pubescence, which demonstrate, I think, very clearly the points I wish to bring out.

CASE I.—K., male, æt. 14; admitted July 6th, 1888. Slender; 5 ft. 5 in. tall; wt. 92 lbs. Poorly nourished; light hair; blue eyes; no evidence of organic disease. Reflexes, pulse and temperature normal; bowels constipated; appetite poor; facial expression one of despondency. Family history bad; several members of his family have been insane; maternal grandfather died of phthisis.

Mental condition.—First attack. Up to a few days ago patient was thought to be sane, though for several months there had been considerable depression, change in conduct, temper, etc. Naturally of a pleasant disposition and good intellectual capacity. Disappointment given as the cause of this attack. No lucid interval to time of admission since beginning of attack. Has been despondent; refused to eat or talk; careless in habits and dress, and later, violent and abusive; is afraid of being burned. At times, will cry and scream and finally end the noisy period by praying.

July 20th.—Has had an apparently lucid interval; excited period ended a few days ago in a condition of extreme violence, necessitating his removal to a disturbed ward. Just now, he talks freely, plays games, etc., and seems to be in a rational condition.



September 10th.—Has had another attack of excitement; gradually became quiet and morose; does not talk; refused food; careless in habits.

September 20th.—Is again in a rational condition.

October 14th.—Again sullen and morose; refuses food; will not answer questions unless urged; bowels constipated.

December 1st.—Is again in a lucid interval.

December 18th.—Depressed, but did not refuse food.

January 10th, 1889.—Has had an attack of excitement lasting two days. Struck several patients.

March 1st.—Has been in a quiet and apparently rational condition since last entry.

March 19th.—Eloped to-day while at work on grounds.

July 19th.—Re-admitted. After his escape he made his way home. Threatened and attempted to kill his father, and also tried to shoot the family physician.

August 27th, 1890.—Mentally is unchanged; has had several attacks of violence and excitement, followed by depression, and this in turn by a lucid interval.

January 17th, 1891.—Has been greatly excited on the subject of religion; talks in a pompous manner; conversation disconnected; careless in dress.

February 10th.—Is depressed; will not talk.

April 17th.—Quiet and in a lucid interval.

May 30th.—Is quiet and orderly; eats and sleeps well; no excitement of late.

CASE II.—Y., female, æt. 18. Admitted December 21st, 1889. Slender and girlish in appearance; emaciated; physical condition much impaired. Requires feeding with a spoon. Is excited; attention can scarcely be arrested. Is quite active running up and down the ward. Mother died of phthisis; maternal grandmother died insane. Religious excitement the exciting cause of her trouble. First attack occurred three years ago and lasted four weeks; a second in July, 1889, lasting four weeks; the present attack began three weeks ago. Inception of each attack sudden. Habits of life good; intellectual capacity fair. Has symptoms of mania. At times is greatly excited, followed by periods of depression, the latter condition being accompanied by delusions of danger to herself; when excited has delusions of a religious nature. Takes sudden dislikes to her parents. When excited assaults others without reason; often troubled with insomnia. During her second attack had suicidal tendencies.



The various entries in the history of this case show an alternation of periods of excitement and depression. At times she became so violent as to require restraint. Her present condition is about the same as on admission, except that her depressed periods are longer and the excited periods shorter.

CASE III.—T., female, æt. 15; medium height; blue eyes; is in good physical condition. Deportment and manner quiet. Unusual physical development; menstrual function not fully established, requiring treatment for this at each period. Health otherwise good. Family history of insanity; has a cousin an inmate of this hospital. Causation said to be disturbed menses. Has had irregular attacks for past eight months, with lucid intervals of varying length. History of excitable condition; emotional; noisy; incoherent, and at times violent, striking those about her; wanders about the street; is destructive. Condition has been growing worse. On admission was quiet and ladylike, and aside from girlish manners, seemed quite rational.

September 6th.—Remained in a stationary condition until to-day when gradual excitement set in, marked first by loud playing on the piano, silly and irrational talk. Excitement gradually increased in severity; noisy at night; refused food. Removed to a disturbed ward.

September 17th.—Incoherent and noisy; sings loudly; destroys clothing; no rational conversation; abusive to those about her. During last few days became quieter; excited attack lasted about a week. After commencement of excited period, menstruation began. Is now quiet and in about same condition as at time of admission.

October 25th.—In improved physical condition; passed her menstrual period without a return of excitement.

December 26th.—Has passed two menstrual periods without excitement. In very good physical condition. Taken home to-day.

Re-admitted February 17th, 1891.—Remained well until about a week ago. Menstrual function as far as known normal. Is in good physical condition. Is said to have been immoderately excitable; rambling talk. Abusive to her parents and friends. Was deceived to render commitment easy, and this caused great excitement; used most indecorous language. After this subsided she appeared to be in her normal condition, although she

talks loudly, is restless, sings amorous songs; manner obtrusive. Sleepless but quiet at night.

March 9th.—Period of excitement lasting but a few days. Is now in a quiet period.

March 26th.—Has had *la grippe*, upon which an excited period supervened. Is now noisy and disturbed, singing, whistling, etc., etc. Menstruation suppressed.

March 30th.—Assaulted attendants. Noisy, obtrusive, destructive and generally troublesome.

April 1st.—Noisy, with inclination to violence; continuous and incoherent talk; blasphemous and lewd. Gait swaggering; sings amorous songs; behavior and talk shows marked erotic tendencies. Required seclusion.

April 7th.—Menses appeared to-day. Excitement somewhat subsided.

April 10th.—Still shows erotic tendencies; is pale and reduced in weight.

April 12th.—Quiet and considerably depressed.

April 15th.—Depressed condition still continues.

May 4th.—Was threatened with attack of excitement but has passed through her menstrual epoch without such violent mental disturbance.

I shall not summarize the points illustrated by these cases except to say that all three present the periodicity characteristic of this form of insanity, and also the perversion of morals peculiar to it.

Cases I. and III. might be called cases of circular insanity of pubescence, while Case II. at this time, aside from its alternating periods of excitement and depression, presents the appearance of stuporous melancholia.

I have not given the treatment in these cases, but it is an interesting fact that in Case III. it was necessary to employ treatment to establish the menstrual epoch, several times, but that after a short stay in the hospital the menses appeared normally. The drug used was Apiol.

I think the following conclusions might be drawn in regard to the insanity of pubescence:

1st. It is a chronic mental disorder.

2d. It is an hereditary psychosis.

3d. It is a periodic or recurrent insanity, and also, as a rule, includes a moral perversion.

## Infiltrating Glioma of the Brain—Report of Case.

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By C. H. WALLACE, M. D., and F. C. HOYT, M. D.,

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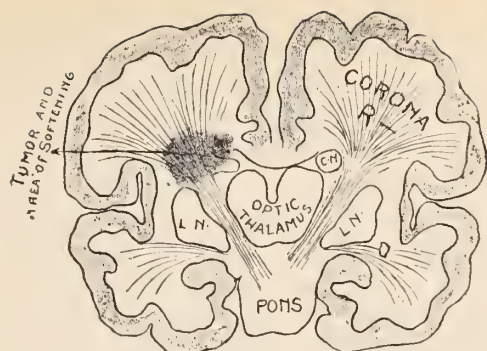
**C**LINICAL History by Dr. Wallace. J. H., age 34, single, male, admitted into Asylum No. 2 Aug. 6th, 1889. The patient had been addicted to the moderate use of alcohol and the excessive use of tobacco for some years. He had two aunts who gradually went blind in middle life, this being the only exception to a good family history. He had been a robust, hard-working farmer up to two years before admission, when he, with no apparent physical disease, was observed to be failing mentally. He lost interest in the ordinary affairs of life, was stupid and dull of comprehension. About February 8th, 1889, some months after the manifestations of these symptoms, he began to have convulsions. These increased in frequency and intensity, and were accompanied by a gradual impairment of sight. His condition upon admission was as follows: Physical condition good; muscular system well developed, but motility somewhat impaired. His movements were sluggish and gait rather uncertain, although not particularly characteristic. Sight in both eyes was completely gone; an ophthalmoscopic examination made at this time by Dr. R. E. Smith, showing atrophy of both nerves. His hearing was apparently impaired, though it was difficult to determine whether this was really due to deafness or to mental apathy. Cerebration was very slow. Upon being interrogated he would hesitate for some time, but would finally answer to the point. No defect in speech was noticed, with the exception of a tendency to dwell unusually long on each word, separating the syllables and

apparently selecting his words with some difficulty. His articulation was perfect, and the defect of speech was aphasic in character. From the time of the patient's admission in August until the latter part of September, his condition was stationary. At about this time he had several seizures, which were fits of unconsciousness rather than convulsions, being accompanied by very little convulsive movement, and followed by increased drowsiness and stupor. Later he began having ocular hallucinations, thought he saw strings and threads in front of his face, and attempted to draw them away; had the delusion that he was driving his oxen, calling out to them, making motions as though using a whip, and performing the usual movements in connection with such an occupation. Upon being questioned he explained his actions, saying that he was driving a yoke of oxen. He also had some auditory hallucinations of an indefinite character. At this period of the case the diagnosis of a brain tumor of the left cerebral hemisphere was made, although from the obscurity of the case no satisfactory localization was made. Later, from the lowered irritability of the respiratory centers, mucus accumulated in his air-passages to such an extent that it looked as if this interference with respiration would certainly cause an immediate fatal termination of the case. He, however, gradually improved in a general way, respiration became less obstructed, and he was up and about the ward until November 2d, about two months after his former seizures, when he had another series of similar attacks. He now vomited frequently, for the first time in the history of the case, and his air-passages again filled up with tenacious mucus which he expelled only when almost asphyxiated. At this time deglutition was somewhat interfered with, and he took liquids only. He gradually grew worse; was stupid and drowsy; slept twenty hours out of twenty-four, and when aroused would immediately relapse into sleep. He now became unable to stand alone, although no complete paralysis was observed in any part of the body, yet there

was a general partial paralysis of all voluntary motion. There was considerable hyperæsthesia of both lower limbs, slightly more marked on the right side. Impairment of motion was marked in both legs, though the right suffered slightly more than its fellow. The arms were much less affected than the lower limbs. At this juncture it is well to note that at no time in the history of the case was headache observed, although the patient was frequently questioned in reference to that symptom. For two weeks prior to death his neck was very rigid, and any movement of the head seemed to give the patient great pain. A few days before death he became practically helpless, and died in coma—seven months after admission, and twenty-five months after first appearance of symptoms. From the time of admission it is remarkable that the nutrition of the patient suffered very little, and at the time of his death he was in a well-nourished condition.

Pathological report, by Dr. F. C. Hoyt. Autopsy eighteen hours after death, rigor mortis developed, body well nourished. The calvarium was very thin and friable, the inner surface soft and roughened. The dura mater was healthy throughout and was not adherent. The brain weighed forty-eight ounces, the sulci gaping and the convolutions somewhat flattened. The pia-arachnoid was normal throughout. No softened or otherwise diseased areas were found by inspection of the cortex, but on palpating the surface of the hemispheres a tumor was felt in the anterior and lower portion of the left frontal lobe, at about the site of the middle frontal convolution. By careful dissection the tumor was exposed and found to be situated in the location described, well beneath the cortex, in the centrum ovale. The growth was about the size of a black walnut and was soft, in some portions almost mucoid in consistence, and grayish white in color. It was not distinctly outlined from the surrounding parts in all directions, but seemed to infiltrate, its contour being more easily determined by its color than its consistence. The tumor was surrounded by an area of soft-





TRANSVERSE VERTICAL SECTION



DIAGRAM  
SHOWING POSITION OF TUMOR  
IN LEFT FRONTAL LOBE.





ened white matter which was partly diffuent. The growth was found to extend from the centrum ovale majus into the anterior cornu of the left lateral ventricle. Here a gelatinous layer of the tumor was found over the floor of the ventricle, as far back as the anterior portion of the optic thalamus, and was traced through the foramen of Monroe, into the right lateral ventricle where a small formation was observed. In the left ventricle the tumor was attached to the caudate nucleus and the pillar and anterior portion of the body of the fornix. These bodies were considerably softened. The area of softening about the tumor involved the anterior limb of the internal capsule and the anterior portion of the lenticular nucleus. At no point was the cortex directly affected by the tumor or the softening. Both lateral ventricles were distended with fluid and a large amount was found at the base. The other portions of the brain presented no changes other than those due to the pressure of the fluid. The lungs were œdematous, heart and kidneys normal.

Microscopical examination. A microscopical examination of the tumor showed it to be a soft structure, stroma scant and interstitial matter abundant. Small cells with indistinct bodies and oval nuclei, mixed with large round cells with large distinct nuclei were the characteristics of the growth, and lead me to place it among the soft or infiltrating gliomata.

In addition to the fact that this case contributes to the statistics of brain tumors, I regard it as of especial interest from several points of view. Tumors of the centrum ovale usually are so situated as to involve the overlying cortex, and therefore give rise to cortical symptoms in a degree corresponding to the nearness of approach to the cortex, or their indirect influence by pressure. In this case, however, there seemed to be no implication of the cortex overlying the tumor, and had there been, more marked local convulsions should have been observed. The interference with speech was probably due to the interruption of the fibers from the third

frontal convolution. The absence of headache, a symptom generally regarded as one of the most constant, was a feature in this case. Dr. C. K. Mills, while asserting that headache is one of the most frequent and positive symptoms of brain tumors, cites out of one hundred cases, five in which it was absent, and in three of these the tumor was gliomatous. These tumors, and especially the soft variety, exert comparatively slight pressure, and are therefore less liable to cause pain.

Vomiting, also a prominent symptom of cerebral neoplasm, was observed very late in the history of the case, was transient and at no time severe. It is, as a rule, those tumors situated in the antero-frontal region which are the least prone to cause vomiting, and when it does occur is explained in many cases by the theory of Ferrier ("Brain," 1879) as due to "irradiation of irritation." The atrophy of the optic nerves in the case was a symptom of importance in making the diagnosis and adds emphasis to the well-recognized necessity for the use of the ophthalmoscope in the diagnosis of brain tumors. The psychical qualities of patients with brain tumors, vary both according to the seat and size of the tumor. Cases under my own observation have varied from the intense excitement of acute mania to the apathy of dementia. The mental symptoms in this case were of a mild character, being described better as a "mental dullness, inability to perform continuous mental action, an impairment of the faculty of attention, and a general apathetic, stupid and drowsy condition." An array of symptoms such as these is credited by many writers, notably Wood, Gowers and Ferrier, as being indicative of disease in the antero-frontal regions, and our case bears out this statement. The fact that the nutrition of the patient was not seriously impaired by the cerebral disease is, according to Gowers, indicative of a gliomatous tumor. The growth, situated as it was, is corroborative of the views held by the same author, in that lesions of the lenticular and caudate nuclei do not necessarily

cause paralysis, and that any paralysis which occurs at the onset of acute lesions of these parts is due to interference with the motor fibers in the internal capsule. Also that disease limited to the anterior portion of the internal capsule, not involving the angle, does not cause any definite symptoms, and I think also negatively confirms the belief that the principal motor paths pass at the angle and in the posterior limb of the capsule.

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## Genius a Degenerative Epileptoid Psychosis.<sup>1</sup>

By CESARE LOMBROSO, Turin, Italy.

FROM anatomico-biological analysis of the careers of sane geniuses and those neurotic or insane, of their geographical distribution, of the causes, often pathological in character, of their appearance, and of the evil inheritance discernible in their descendants, naturally arose the suspicion that genius has a degenerative origin. This suspicion, whose audacity at first repels, becomes more and more justified by the phenomena exhibited by genius. If the lives and works of the historically great morbid minds, be examined, it is found that they, as well as the men who have passed through the glorious parabola of genius without demonstrable mental taint, are distinguishable by many traits from ordinary men.

At the outset, it may be stated that the insane geniuses have no decided character. The complete character which does not bend with every breeze, distinguishes the mentally complete from them. Tasso<sup>2</sup> declaimed against courtiers as mendicants, yet became an obsequious courtier. Rousseau,<sup>3</sup> despite his seemingly exquisite sensitiveness, abandoned his cherished mistress and his children, calumniated his friend, and was thrice an apostate, from Catholicism, from Protestantism, and, most significant of all, from Deism. Swift,<sup>4</sup> albeit an ecclesiastic, wrote the coarse chanson of "Strephon and Chloe," blackened the religion of which he was a

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1. Translated, with comments, by James G. Kiernan, from Lombroso's "Men of Genius."

2. He was a periodical lunatic. See ALIENIST AND NEUROLOGIST, Vol. VIII.

3. He was a hebephreniac, whose misoneism originated in a desire for notoriety combined with suspicious delusions. See ALIENIST AND NEUROLOGIST, Vol. VIII.

4. Swift was in these particulars on a level with most Anglican clergymen of the eighteenth century. See ALIENIST AND NEUROLOGIST, Vol. VIII., and "Macaulay's Essays and History."

dignitary,<sup>1</sup> was proud to the height of folly, yet was addicted to horseplay in taverns. Lenau, while devout to fanaticism,<sup>2</sup> in "Savaronola," was extremely sceptical in the "Albigenses." He recognized his own inconsistency and jested at it. Schopenhauer abhorred women and manifested a desire for the nirvana of the Buddhist, yet claimed he would live a century.

Genius exhibits extreme pride to a degree which often passes the limits of credibility. The simplest criticisms are regarded as the bitterest, most malicious persecution. Nature was leagued against Cardan, and Newton resented opposition as a mortal affront. Rousseau claimed that mankind, and even the elements, were leagued against him, and resorted to painful maneuvers seemingly to avoid contact with men. Swift<sup>3</sup> humiliated the ministry and wrote haughtily to a duchess. Lenau,<sup>4</sup> who had inherited his mother's patrician pride, announced that he was King of Hungary. Wezel<sup>4</sup> believed he had founded a bank and had issued bank notes, and finished by claiming divine honors. He published works by the "God Wezel."

Schopenhauer boasted that one of his disciples enshrined his portrait as that of a saint. Some geniuses are precocious. Tasso spoke at six months and knew Latin at seven years. Lenau as a child improvised sermons and was an admirable fife and violin player. Cardan at eight years heard from an apparition prediction of his future genius. Ampère at thirteen was a mathematician. Pascal at ten devised an acoustic theory from hearing a gong; at fifteen he composed his "Treatise on Conic Sections." Haller preached at four, and at five was a student of books.

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1. He sprang from a family of imbeciles; was gloomy, alternating with brief exaltation and defended pederasty. See ALIENIST AND NEUROLOGIST, Vols. VIII. and XII.

2. Lombroso contradicts this later on.

3. Rattled a Tory because of lack of patronage by the Whigs, like the clerical politicians most of the upper Anglican clergymen then were.

4. Paranoiacs both.



Many geniuses are addicted to alcoholic and narcotic abuse. Haller<sup>1</sup> dosed himself with opium. Rousseau swilled coffee. Tasso<sup>2</sup> was a notorious drunkard, as were Kleist, Gerard de Nerval, Musset, Murget, Mailath Praga, Lorani, and the Chinese poet, Li-To-Kai, who was killed by excess in alcohol whence he drew his inspiration. Lenau<sup>3</sup> latterly abused wine, tobacco and coffee, and Baudelaire,<sup>1</sup> tobacco, wine and opium. Cardan<sup>4</sup> was an inebriate. Swift was a patron of taverns. Poe,<sup>5</sup> Southey<sup>6</sup> and Hoffmann<sup>7</sup> were dipsomaniacs.

Most geniuses present reproductive anomalies. Tasso<sup>8</sup> indulged in youth in sexual excess, but was chaste after thirty-eight. Pascal,<sup>9</sup> excessively sensual in early life, later feared even the maternal kiss. Rousseau<sup>10</sup> was hypospadiac, and like Baudelaire,<sup>10</sup> had a sexual perversion. Newton<sup>11</sup> and Charles<sup>11</sup> XII. never sacrificed to aphrodite. Lenau<sup>10</sup> wrote, "I am unsuited for marriage." In lieu of the solitude of the study, the genius is impelled to wander continuously. Lenau wandered even to America, and thence over Europe. He said: "There is an absolute necessity for me to change climate to refresh my blood." Tasso<sup>12</sup> wandered from Terran to Urbino, Bergamo, Rome, Naples, Turin and Paris. Poe<sup>12</sup> made the *Review* editors despair by his wanderings between Baltimore, Richmond, New York and Philadelphia. Rousseau<sup>13</sup> claimed that more than three days' sojourn in one place was unendurable, whence his wanderings, as well as those of Cardan<sup>13</sup> and

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1. Suffered from renal calculi, whence opium.

2. Antecedent to his cyclothymia only.

3. Alcoholism due to praise or to genius, not *vice versa*.

4. From his cardiac syncope.

5. Periodical dipsomaniac.

6. I can find no authority for this. My "Life of Southey" does not mention it.

7. A congenital victim of locomotor ataxia. Sir Walter Scott denies dipsomania.

8. Chastity of impotence.

9. Under theological teaching, *vide* trial of Rebecca (in "Ivanhoe"), a sexual, passionate, religious man, flees from all possible temptation.

10. Early masturbatory excess.

11. Mental preoccupation inhibits sexual passion.

12. Periodical furor and necessity.

13. Necessity and suspicious delusions.

Cellini.<sup>1</sup> Gerard de Nerval<sup>2</sup> had nomadic tendencies, which grew with age. His departures resembled absconding.

The same errabund tendencies are manifest in their changes of career. Swift<sup>3</sup> wrote, beside satires, on Irish manufactures, theology, politics and history. Cardan<sup>4</sup> was at once theologian, *litterateur*, mathematician and physician. Rousseau<sup>5</sup> was at once artist, botanist, musician, charlatan, philosopher and poet. Hoffmann<sup>6</sup> was a lawyer, caricaturist, poet, musician and dramatist. Tasso,<sup>7</sup> as later Golgol, tried all varieties of poetry, history and didactic writing. Ampère<sup>8</sup> in youth was a mechanician and musician, and later at once linguist, naturalist, physician and psychologist. Newton<sup>9</sup> and Pascal<sup>9</sup> during periods of aberration abandoned physics for theology. Haller<sup>10</sup> wrote on poetry, theology, medicine, physiology, botany, and even studied mathematics under Bernouilli. Lenau<sup>10</sup> studied law, agriculture, theology and medicine. Walt Whitman<sup>11</sup> was a printer, school teacher, soldier, wood-cutter, and even (strangely enough for a poet) an office-holder.<sup>12</sup> Poe<sup>8</sup> studied medicine, physics, zoology and mathematics.

Philomneste has pointed out in this connection that of forty-five insane authors, fifteen occupied themselves with poetry, thirteen with theology, five with prophecy, three with autobiography, two with psychiatry and two with politics. Among paranoiacs the tendency is toward theology, science and psychology. These energetic, terrible thinkers, are true pioneers of science ; they leap in advance

1. Monetary and criminal causes.

2. Monetary causes of the Parisian student type.

3. As a politician necessarily became a pamphleteer.

4. University course of the time required this.

5. "Pot-boiling" required these changes.

6. Many cultivated Germans are so to-day.

7. "Pot-boiling," so did Dryden.

8. So are, even in this day of specialization, hundreds of others.

9. Theology was a study of the time.

10. The studies of a University course of the time.

11. Whitman's career was normal for an American.

12. How about Chaucer, Spenser, Addison, Fielding, Johnson, Lowell, Stedmann, Boker, Halleck? not to speak of Charles Lamb, Washington Irving and Hawthorne. These show the absurdity of calling clerical pursuits and office-holding strange procedures for Anglo-Saxon *literati*. See Macaulay's "Essays" and "History" for reasons why *literati* at times assume such prominence even in Latin countries.

as a forlorn hope, attack with avidity the greatest difficulties on which can be spent their morbid energies. They seize upon the strangest relations of things, the newest and most striking points. In this they recall the originalities pushed to absurdity, of insane hospital poets and artists. Ampère sought after what Arago calls the abysses of mathematics—the problems of mathematics. Rousseau, in his “*Devin de Village*,” attempted the “music of the future,”<sup>1</sup> as did later, Schumann, another lunatic of genius. Swift was accustomed to say he felt perfectly at ease when dealing with difficult subjects foreign to his own occupation. His style in his essay on “*Servants*” is not that of a politician, a preacher, but that of a flunkey. His “*Confession of a Thief*” induced the accomplices of the supposed confessor to deliver themselves to justice.<sup>2</sup> In his predictions as “*Bickerstaff, the Astrologer*,” he so disguised himself as a Catholic in predicting the downfall of Rome that the Inquisition burnt the book.<sup>3</sup>

Walt Whitman is the creator of a poetry without rhyme or rhythm, vaunted by the Anglo-Saxons as the poetry of the future, which is certainly not destitute of strange, wild originality.

Baudelaire, an admirer of Poe, writes that :

The compositions of Poe seem created to prove how the weird may enter into the elements of the beautiful.

He collects them under the title of “*Arabesques and Grotesques*,”<sup>4</sup> because they exclude the human and his literature was extrahuman. This recalls the predilection of insane artists for arabesques, but arabesques humanized.<sup>5</sup> Baudelaire, in his turn, created poems in prose. He exalts the artificial element in the beautiful and discovers poetic associations even in olfaction.<sup>6</sup> He declares<sup>7</sup> that music

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1. Why not cite Wagner, another sexual pervert?

2. An exploded literary fable due to one of Swift's deceptions.

3. This cremation was not caused by Swift's style but his topic.

4. “*Tales of the Arabesque and Grotesque*.”

5. This is a strangely forced association. The insane humanize arabesques but Poe describes them, as a sane mind would, as abnormal.

6. As old as Solomon's Song.

7. “*Sense Inter-Association*.” See Baratoux, *ALIENIST AND NUROLOGIST*, Vol.

recalls to him gold and scarlet, and speaks of the perfumes of children's flesh or of the dawn.<sup>1</sup>

These morbid geniuses have a style proper to them, at once passionate and glowing with color, which distinguishes them from other writers perhaps because they seem unable to compose unless under mania-like impulses. Often they claim to be unable to compose, or even to think, unless at periods of inspiration.

Tasso<sup>2</sup> writes, in one of his letters :

I toil and am unfortunate in everything, even in composition. My ideas are embarrassed—slow to arise and slower to develop, and I cannot express them except in moments of fervor.

Rousseau avows<sup>3</sup> the animated and eloquent exordiums of Cardan frequently contrast markedly with the rest of his monotonous works and show how he differed at different times in his composition. Haller, himself an excellent poet, said that all the poetic art consisted in being obscure.<sup>3</sup> Pascal began thirteen times his "Eighteenth Provincial Letter."<sup>4</sup> Something analogous in style and nature led Swift and Rousseau to admire Tasso, Haller to admire Swift, and Baudelaire to admire Poe and Hoffman. Almost all great men are painfully tormented by religious<sup>5</sup> doubt which awakens their minds and which they combat as a crime, their consciences alarmed and their hearts sick. Tasso was tormented by a fear of being a heretic. Ampère often said doubt was the worst torment of man. Haller wrote in his journal :

God, grant me a drop of faith! My thought believes Thee, but my heart refuses to. This is my crime.

Lenau repeated in his last years :

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1. As old as Solomon's Song.

2. How much of this was due to the exhaustion of periodical insanity and masturbatory excess and in no way related to genius Lombroso fails to point out.

3. A special criticism rashly made general by Lombroso.

4. Goldsmith frequently refined his style; hence, thirteen recastings of an important letter was no evidence of difficult composition.

5. Great men do not differ in this from others of their time. In a time of religious introspection doubt would result naturally. In a time of world-wide fluxions of religions it would also result as well as in the changes resulting from the advances of science. Lombroso here exhibits his bias to look upon the abnormality of one epoch as necessarily an abnormality always.

Hourly, when my heart suffers, the idea of God is enfeebled within me.

Doubt, as all his critics admit, is the hero of his "Savaronola."

Insane geniuses are wrapt up in themselves and eternally babbling of their misfortunes, virtues and diseases. They finish at last by remarking even their defects. All men love to speak of themselves and the insane excel in this particular, but when genius is joined to insanity even this egotism is doubled. Then result those marvelous mixtures of passion and pain, monuments of phrenopathic poesy, permeated throughout with the grand unfortunate personality of the author. Cardan has left us his life, complete poems on his misfortunes, and the work "*De Somnüs*," devoted solely to his dreams and hallucinations. The poems of Whitman are but expressions in verse of his "ego."

Little is the theme of the hymn;  
But the greatest of all is myself.

Here he depicts a child who can scarcely see a cloud, a stone, a drunkard or other object without imagining itself thereinto transformed. This child is himself. Rousseau, in his "Confessions," his "Dialogues" and his "Reveries;" Musset, in his "Confessions," and Hoffmann, in "*Kreissler*,"<sup>1</sup> confined themselves to the minute depiction of themselves and their mental morbidity. Poe, as has been well observed by Baudelaire, took for his themes the exceptional features of human life—the illusions, which appeared to him at first uncertain, then clear and convincing, the absurd which seized upon intelligence and governed with a frightful logic the hysteria which seized upon the will, the contradictions between nerves and mind going so far to express sorrow by laughter. Pascal, whose mental defect showed itself in an exaggerated humility—Pascal, who says that Christianity consisted in the abnegation of the "ego," left no

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1. "*Kreissler*," as he himself says, is filled with strange conceptions, always at war with reality, becomes at last insane.



autobiography but has depicted his mental state in his "Amulette," and there is no doubt but that he refers to himself when he says

That extreme genius is closely akin to extreme folly :

That men are such fools that he would be a new species who was not ;

That diseases alter mind and sense, and if the great are most affected the little are influenced proportionately ;

That if the genius has his head higher than other men, his feet are lower \* \* \* there is no great gap between them and other men or children or animals.

Haller<sup>1</sup> has detailed his religious delusions and avows often a change of thought in twenty-four hours, when he becomes

Stunned, stupid, pursued by God and despised and neglected of men.

Swift, in his "Letter to a Very Young Lady," traces, day by day, his life, and confesses his insanity in terms at once clear and concise:<sup>2</sup>

Every human body exhales vapors which mount to the brain. If these be moderate in quantity, the man remains normal; if they be excessive, they exalt him and change him into a philosopher, a politician, a religion founder, in a word, into a lunatic. Hence, it is wrong to keep men shut up in Bedlam, and a commission appointed to examine them would doubtless find in this academy many imprisoned geniuses, which might produce admirable instruments for the several offices in a state, ecclesiastical, civil and military \* \* \* Even I, the author of these momentous truths, am a person whose imaginations are hard-mouthed and exceedingly disposed to run away with his reason, upon which account my friends will never trust me alone without a solemn promise to vent my speculations in this and the like manner for the benefit of mankind.

Letzmann, who later threw himself from a window, wrote the celebrated "Journal of a Melancholiac."

Mailath, after having depicted his own depression in "Le Suicide," killed himself with his sister, to whom this romance was dedicated. Tasso has repeatedly detailed his insanity. Long before the periodical mania became demonstrable, he had written :

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1. Tagebuch. Wherein does this differ from conversion phenomena among Protestants, to which no morbid stigma can be applied ?

2. This passage is really distorted from one in the "Digression on Madness," of the "Tale of a Tub." Lombroso mistakes satire for autobiography. Psychology was dominant in the literature of the time.



Although I cannot deny that I am insane, I can hardly believe my insanity is caused by drink or lust, for I am better when I drink or indulge in coitus.

Dostoyewski introduces imbeciles, paranoiacs and epileptics in the "Idiot" and "Besi," and moral imbeciles in "Crime and Punishment."

Gerard de Nerval wrote "Aurelia," which has been called a canticle of febrile dreams, a mixture of poetry and delirium.

Barbora wrote "Les Detraqués." Burton<sup>1</sup> depicted his own delusions. Allix, although not a physician, wrote on insanity. Lenau, twelve years before succumbing to insanity, described its phenomena. All his poems depict with sadly vivid colors, tendencies to suicide and depression, as may be seen even from their titles, "Hypochondria," "Insanity," "Soul-Sick," "Violent Dreams," and "The Moon of a Melancholic." Not even in the saddest pages of Ortil can be found as vividly colored a passage descriptive of suicidal tendency as the following from "Soul-Sick:"

My heart is a deep wound, and dumb to my grave I bear it. My life breaks hour by hour. One alone can console me, on whose bosom can I sob myself into calm; and this one lies in the depths of the grave. Oh, my mother, rouse at my prayers. If thy love live in death; if thou canst watch over thy son's future \* \* \* Let me leave life quick. I desire the death-night. Aid thy weary son to despoil himself of sorrow.

His "Violent Dreams" is a terribly vivid picture of the hallucinations which preceded or accompanied his first maniacal attack, and a careful reader can detect the incoherence and fragmentation of ideas and phrases of maniacal exaltation. Nathaniel Lee,<sup>2</sup> popularly known as the "mad poet," minutely depicted insane geniuses, as in his "Cæsar Borgia."

The principal mental defect of great minds is discernible in the totality of their works, in illogical deductions, in absurd contradictions and bizarre, weird fantasies.

1. Not Buston, as Lombroso has it.

2. ALIENIST AND NEUROLOGIST, Vol. VIII.

Socrates was insane, when, despite the fact that he had closely approximated Judaic monotheism and Christian ethics, etc., he drew omens from sneezing and from the voices and tokens of his protecting genius.<sup>1</sup> Cardan, who had anticipated Newton in the discovery of gravitation, was insane, despite the fact that in his work, "De Subtilitate," he explains as hallucinatory, the strange symptoms of the "possessed," and the ecstasies of hermits, since he attributes to a genius, not only his inspiration, but the creaking of a table or the trembling of a pen. He is insane, since he claims several times to have been bewitched. His work, "On Dreams," is as demonstrable of insanity to an alienist as a pseudo-membrane is of disease to a pathologist. At the outset of this work, his observations are interesting and logically analytical of dream phenomena. He points out that great physical pain in dreams produces less proportionate results, while slight pain acts with greater force than in the waking state; that fools and the insane dream much; that in dream, as in a theater, a long series of events occupies but a short space of time, and finally (an observation in which there is considerable truth), that men dream totally in conformity to, or totally in opposition to, their usual habits. Soon after such striking evidence of genius, appears most obsequious obedience to vulgar credulity, detailing according to what more or less insignificant incident of a dream could be determined a more or less distant future. He composed, with most sincere faith, a dictionary of fortune, identical in form with the cabalistic *brochures*. Each subject, each word is connected with a series of references so as to interpret each other; father signified author, husband, son, commander; foot meant house, foundation, arts and artisans.<sup>2</sup>

Newton,<sup>3</sup> who weighed worlds in the balance of his

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1. These notions are still held by sane Christians—the result of early training.

2. This was simply a "dream book" of our time, and Cardan had the dream-bias of the theology of his time.

3. Evidence of theological bias, perehance, and resultant limitation, but to one trained in the popular theology of the time, and even of our time, such limitations were inevitable. Newton was a querulent paranoiae but this was no evidence of it.

calculus, was certainly insane when he attempted to interpret the "Apocalypse," or the horns of Daniel; and he was still more so when he wrote to Bentley:

By the law of attraction the elongated orbit of comets is explained, but God alone can explain the lateral difference of the almost circular planetary orbit.

A very singular argument, as has been said by Arago, which places God at the limits where science has not penetrated.<sup>1</sup> This very Newton, in his "Optics," declaims against those who in the "Aristotlean" fashion put occult qualities in things, thus limiting the researches of science,<sup>2</sup> and a century later, Laplace found the cause relegated by Newton to God, as undiscoverable by his calculus.

Ampère believed he had squared the circle.<sup>3</sup> Pascal, the first to study the laws of probabilities, believed that the contact of a relic could cure lachrymal fistula.<sup>4</sup> Rousseau<sup>5</sup> made the savage the ideal type. He believed that everything naturally sweet to sight and palate must be harmless. His life was a tissue of contradictions. He eulogized the rural life and lived in city streets. He wrote a treatise on education and put his children in a foundling home. He was sceptical about religion, yet stoned a tree to determine the future.<sup>6</sup> He deposited his letters to God<sup>7</sup> on church altars as if God dwelt there only. Baudelaire compared the sublime in the artificial to a beautiful woman swathed in straw. He depicted in a moment of insane inspiration, a continent of metal whence water and vegetation were banished. All was there rigid, polished, shining, without heat or sun. In

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1. Wherein does it differ from the placing of God in modern times at the limits of the knowable?

2. There was as wide a psychological difference between these "Aristotlean" views and Newton's as between fetishism and monotheism.

3. An error or a delusion.

4. In full consonance with the belief of his time and of not a few persons in *ours*.

5. He amplified notions which he derived from the original contract theory of Locke, who derived it from Hobbes, who took it from the Puritan, Anabaptist and Lollard school of politics.

6. Or to settle his mind in a moment of indecision.

7. Was this not done to secure greater notoriety and perusal?

the midst of the eternal silence, the blue immensity reflected in it as old mirrors in a basin of gold.<sup>1</sup> The Latin of the decadence was his ideal; it alone could render passion.<sup>2</sup> He adored cats to the extent of addressing poems to them. He made many incoherent and incomprehensible utterances. He said in his "Advice to Communists:"

Now everything is common, even God who wishes to say these words.

Hayem defined Schopenhauer's philosophy as a dream intensely dreamt and spiritually realized.

Walt Whitman was certainly insane when he wrote, that to his eye, accuser and accused and judge and criminal were equal,<sup>3</sup> and when in one of his poems he declares homage to the virtue of one woman only, and she a courtesan, and when he proclaims:

In me latitude stretches out, longitude elongates; in me are sea, space, volume, matter, Africa, Polynesia.<sup>4</sup>

And when to make comprehensive his materialism he claims that soul is not only in the arms, nose, chin, hair, but even in the genitalia.<sup>5</sup>

Lenau, reversing all poets, in his "Moon of a Melancholiac," sees in the moon, cold, airless, waterless, the cemetery of a planet,<sup>6</sup> which, with a thread of twisted silver enchains sleepers and drags them to death.<sup>7</sup> It is she whose finger guides the somnambulist and who counsels the robber.<sup>8</sup> Lenau, who said several times in his youth, that mysticism was an evidence of dementia, frequently fell into mysticism in his later poetry. There is

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1. Certain conceptions anent results of the nebular hypothesis make this appear anything but bizarre.

2. From it sprang the provengal, pre-eminently the language of passion.

3. Has Lombroso ever read Emerson's "Brahma," wherein the same philosophy is expressed?

4. What is this but the Berkleyian philosophy, expressed popularly even in Italy by the proverb, "I dead, the world is dead."

5. This is certainly only a poetic expression of the notions of Bichat.

6. This is the scientific view of the moon.

7. An expression of the popular notion of the effect of sleeping in the moon's rays.

8. Old poetic and popular notions about the moon often expressed in poetry.

no connection between any two chapters of the Koran, often even in a single surate the ideas interrupted or associated in a most bizarre manner. Morkos<sup>1</sup> says:

As to Mahomet, the most diverse conclusions can be drawn. He cannot be denied a great superiority, but on the other hand, it is impossible not to recognize also the clearest evidences of imposture, transplendent ignorance and phenomenal audacity. These qualities and defects are reflected in the Koran, where shine high ideas of science and religion, where are taught the most sacred principles of justice and humanity. The impious and traitorous are thundered at with eloquent energy. But the finest conceptions are distortingly mingled with puns. They are often flung like pearls midst rubbish. Taken as whole, the Koran appears an illy-digested, unfinished work, in which is to be found neither continuity of any thought nor of any elementary art. Its chapters contain intertangled verses; disorder everywhere and throughout reigning pell-mell. In same chapter, one subject suddenly passes into a totally different one. Historical facts are mingled with commands, without relation to them; menaces against the impious confusingly mix with testamentary laws; ritual, prescriptions, with fantasies on the origin of the universe; remembrances of wars, with judiciary cases. Anachronisms are enormous and frequent. Historical facts are fabulously travestied and paralogsms are repeated with strange ingenuity. In the midst of these are declarations against idolatry, menaces of eternal fire to the impious, promises to believers of an extremely sensual heaven, where the excretions themselves and the celestial repasts are exhaled in the form of ethereal fluid in odoriferous mask. These ideas are mixed with advice as to the necessity for charity, justice and prayer repeated hundreds of times and constituting the only links in this incoherently bizarre mixture.

There is much insanity manifest, says Addison, speaking of Swift, in his conceptions of the mathematician who taught the science by giving his pupils problems to swallow; in the economical distiller of excrement and in the philanthropical proposal to turn babies into food.

The style of alcoholic genius is a characteristic one. They have a tendency varying from eroticism to frigidity, to an inequality more bizarre than beautiful, thanks to a too much excited fantasy, to frequent imprecations, to brusque passages of black depression, to the most obscene gaiety and to a manifest tendency to depict insanity, alcoholism and lugubrious death scenes. Poe, says Baudelaire, loved to throw his figures against or to revel

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1. See Carlyle however on this subject. It was badly edited.



in the phosphorescence of decomposition or the perfumes of the tempest and the orgie. He threw himself into the grotesque for love of the grotesque and into the horrible for love of the horrible. Baudelaire, in his turn, described the effects of alcohol and opium. "There are days when my heart disappears, when pangs conquer me," sang poor Praga, whom alcohol killed, and who, in praising wine, blasphemed thus:

Come, opprobrium of the sober!  
Come, misleader of mankind;  
Come, hell of the Eternal Father,  
I shall descend there, glass in hand.

Then the drunken artist painted drinkers. Hoffmann's designs ended in caricatures; his tales in extravagances; his music in entanglements of sound. Murger admired women with green lips and yellow cheeks, evidently from a species of Daltonism.

Nearly all these great men, Cardan, Lenau, Tasso, Socrates and Pascal especially, attached great importance to their dreams, which were evidently more intense than those of normal men.

Several presented enormous but abnormal skulls, and like imbeciles, have finished by grave cerebral changes. Pascal's cerebral substance was harder than normal, and there was suppuration of the left lobe (?).<sup>1</sup> Rousseau had ventricular dropsy. Byron and Foscolo had prematurely closed sutures. Schumann died of chronic meningitis and cerebral atrophy.

The psychoses<sup>2</sup> of geniuses are usually not single but multiple. To melancholia, Chopin, Comte, Tasso, Cardan and Schopenhauer joined the insanity of pride. To imperative conceptions, Baudelaire and Rousseau joined sexual perversion and alcoholism. Gerard de Nerval joined to erotic insanity, alcoholism and the insanity of pride. To morphinism and alcoholism Coleridge joined the insanity of doubt.<sup>3</sup>

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1. These are secondary unrelated pathological findings.

2. This is wild generalization. These are not psychoses but mental states.

3. See ALIENIST AND NEUROLOGIST, Vol. VIII.



The most striking characteristic of the mental state of these great men is an extreme exaggeration of two opposite states of erethism and atony—inspiration and exhaustion, which is manifest in geniuses even the most sound mentally.

A lazy mind, frightened at everything, a bilious temperament, readily suffering and sensible to any contradiction, it should seem could not be conjoined in one organism, yet for all they form the basis of mind,

Affirms Rousseau in his "Second Letter." In consequence of this, and after the manner of the ignorant who explain by external causes subjective alterations of the ego, they refer to a devil, genius or God, their inspirations. Tasso says of his "familiar spirit:"

It cannot be a devil for it does not inspire a horror of sacred things, but it is not of natural origin, since it creates in me ideas which I never had previously.

A "genius" inspired Cardan with his works (theology) and inspired Tartini with his "Sonata" and Mahomet with his "Koran." Van Helmont had a "genius" influence him in all the most important actions of his life. He once saw his own soul as a resplendent crystal. Blake retired to the seashore to converse with Moses, Homer, Virgil and Milton, whom he imagined he had known before. When asked what they were like, he replied that they were majestic, gray, yet shining, and taller than man. Socrates was advised in all his actions by a "genius," whom he valued more than ten thousand masters, and frequently announced to his friends his intention to follow its advice. The glowing, animated style of great writers, the *vraisemblance* with which they describe bizarre fantasies like the Laputan Academy and Tartarus, demonstrate that they see and touch with the certainty of hallucinations, what they describe, and inspiration is evoked similarly to insanity. It must be said for some geniuses like Luther, Mahomet, Savaronola, Molinos and Tae-ping, that this false interpretation of inspiration gives their teachings a tinge of truth which produces conviction and gives them power over the populace. When gaiety and inspiration turn to

depression these great unfortunates misinterpret differently. They are poisoned like Cardan; condemned to eternal flames like Haller and Ampère; persecuted by enemies, like Newton, Swift, Barthez, Cardan and Rousseau—religious doubt in all, mounts uppermost as a crime, and becomes an active real origin for new misfortunes. These men are so different from the common stamp that they tinge any psychosis from which they may suffer, with special characters, thus constituting a new psychosis—the insanity of genius.<sup>1</sup>

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1. In my article on this subject, published some years ago (*ALIENIST AND NEUROLOGIST*, Vol VIII.), I said:

“Genius is not a product of morbid mind. In the exceptional instances where the two co-exist the genius is evidence of a healthy, conservative element, struggling with the incubus of disease.”

I see no reason because of Lombroso's sweeping generalizations to alter this opinion. His cited cases are certainly not well analyzed from either psychiatric or psychological stand-points, nor is his study of the sociological aspects of literary history as profound as the subject demands.

## Report on Neurology and Psychiatry.\*

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By C. H. HUGHES, M. D., St. Louis.

**P**ROGRESS in Neurological Medicine during the past year has not been characterized so much by discovery of new nervous diseases as by the enlargement and better understanding of the symptomatology, pathology and therapy of the already recognized neuroses.

The most important clinical contributions to neurological literature during the past year come to us from Italian, French and American sources, while Germany has given the world since we last met much of its neurotherapy, as it has led in therapeusis generally, if we except the spermatic fluid of Brown-Sequard, the continued experiments of Pasteur, the therapeutic contributions of Germain-Sée, Dujardin Beaumetz, and the hypnotic researches of Charcot, Bernheim and Luys.

It is gratifying to note that during the past year no new names have been needlessly added to the nomenclature of psychiatry.

Paranoia, one of the newest terms in alienism, appears to have secured a permanent footing in psychiatry, as expressive of a distinctive form of insanity natural to the individual, and always abiding with him, as contradistinguished from those more common forms which come to the individual, with a pathological change of character. The literature continues confirmatory of the claims of this form of mental aberration to a permanent place in clinical psychiatry.

Some advanced views have been offered during the year on the subject of insanity as a symptom of Bright's disease, by Dr. Alice Bennett, in the *ALIENIST AND NEUROLOGIST* for July, 1890. This subject has justly attracted

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\* Read before the Missouri State Medical Association, at Excelsior Springs, Mo., May 20th, 1891.

the attention of the *New York Medical Record*, and elicits the following comments:

Insanity is a symptom, or a group of symptoms, that not always in its beginnings manifests disease of the organ of which it is the perverted action. Whatever the initial step leading to disordered brain action—exclusive of organic or developed insanity—the remote effects are similar. If not checked, the process ends sooner or later in dementia—in the limited function of a more or less impaired brain tissue. The general practitioner is usually the one who has the opportunity of studying insanity in its inception, at the time when preventive measures may be attended with gratifying results. Sankey separates what he calls “ordinary insanity” from paresis, epilepsy, organic and developmental insanity. Speaking of the etiology of ordinary insanity he says: “The disease consists in a morbid state of the blood or of the processes concerned in nutrition.” And he goes on to state that during the earlier period of the disease the symptoms are due to an alteration in the blood, in its quality and in its amount; there is some congestion with interstitial deposit of serum and of protein compounds; then atrophy of the brain substance and hypertrophy of the vessels. At first symptoms are due to the circulation of impure blood, next to excessive supply, then they evidence the imperfect function of altered cerebral tissue. Following this trend of thought, Dr. Alice Bennett makes some suggestions along a certain line that is the result of clinical experience. An analysis of sixty cases is given, together with interesting and instructive references to all the literature of the subject.

The psychopathology of the genesic sense and its aberrations, have been the subject of considerable discussion during the past year, especially in probable connection with the singular crimes charged to “Jack the Ripper,” of Whitechapel notoriety. The most exhaustive paper on the subject of sexual perversions presented during the year, is by James G. Kiernan, entitled “The Psychological Aspects of the Sexual Appetite,” which the interested reader may find in the *ALIENIST AND NEUROLOGIST* for April of the present year.

The opium psycho-neurosis has been much elucidated in its treatment during the past year; likewise chronic alcoholism, inebriety and dipsomania, as diseases of the nervous system, but not much has been added to their pathology.

The visual area of the cerebral cortex originally

established by the slicing process of Munk, and later proven by stimulation, has been confirmed and the anterior margin of the visual area placed a little further forward along the first convolutions than formerly fixed by this distinguished investigator, while the spot at which, by extirpation, *seelinblindheit* occurs (the practical psychiatric point in this physiological question) has been confirmed.

Additional cases in which the curious phenomena of mind-blindness was observed have been recorded by Lissaur, during the year, in the German literature (*Archiv f. Psych.*, Vol. xxi.), in a man of eighty, who complained for a month of inability to find his way about, to tell his own position in a room, and to recognize objects, although his perception of light was scarcely impaired. Although he could not recognize objects by looking at them, he at once perceived and named them by means of tactile or auditory impressions from them. On examination he was found to have absolute right homonymous hemianopsia. He had some aphasia, and could not read, but he could write. Perception and discrimination of colors in this case were preserved, and in a second case, recorded by Siemerling. The onset was sudden. At first, visual memory only was impaired; but he soon failed to recognize objects, even when he touched, tasted or heard them. On examination he was found to have absolute right homonymous hemianopsia, together with amblyopia in the left field in each eye. Color sense was lost on both sides. There was also amnesic aphasia. With general improvement, the amblyopia on the left side improved, and color vision returned. In neither case was there any change in the fundus. On these the *Lancet* thus comments:

The association of "mind-blindness" with hemianopia, and occasionally with loss of color sense, has also been observed by Willbrand, Charcot, Swanzy and others. It is, however, very rare, while hemianopia is not uncommon; and Siemerling's case, where there was amblyopia in the left field, with complete loss of vision in the right, gives

support to the hypothesis of Dr. Gowers that it occurs only when the cortical lesion is double.

Ireland has noted this and other cases in the *Journal of Mental Science* for April.

Substantial advance in the pathology of psychiatry has been made in regard to the blood of the insane. Dr. W. Johnson Smyth (*Journal of Mental Science*, October, 1890) concludes that in insane patients there is a very marked deficiency in hæmoglobin; that the deficiency is greatest in secondary dementia; that there is no very marked difference in its amount in melancholia, epilepsy and parietic dementia, albeit, Dr. Smyth has found very high percentages during the exalted stage; that the number of red corpuscles in these psychoses is below the normal standard; that the number of red corpuscles is least in secondary dementia and greatest in parietic dementia. The variations in epilepsy blood-plasma density varies, becoming greater as convulsive seizures occur. These results contrast somewhat with those of Dr. S. Rutherford Macphail (*Journal of Mental Science*, October, 1884, and January, 1885), who found that anæmia is undoubtedly associated in many cases with mental disease. The blood in secondary dementia is deficient in hæmoglobin and hæmocytes, and deterioration advances with age. The blood of masturbatory lunatics is deteriorated in a marked degree. The blood is below normal in parietic dementia and the deficiency in the other states is too trivial to be of importance when it is remembered that the normal specific gravity of the blood is about 1.055, and that in each c. m. of normal blood there is an average 5,000,000, it can readily be seen, in psychoses where the specific gravity is greater than normal, and where red corpuscles and hæmoglobin are deficient, that the blood-plasma is unusually dense. It is densest in secondary dementia and resembles the excessive density of senility, where mentality totters as a general rule and is greater in the active stages than in



the inactive and quiescent stages. While there is a deficiency in epilepsy the decrease is not so marked as in ordinary dementes at the same age.

The surgical treatment of hallucinations has been attempted by Burckhardt (*Gazzetta degli Ospitali*), who has subjected six cases of insanity to operative treatment. Twice he made it his object to intersect the paths of association, which, according to him, transmit the pathological impressions coming from certain sensory parts and certain ideogenic areas of the brain. To effect this, he removed portions of the frontal and parietal lobes before and behind the ascending convolutions. In one of these cases the result was very satisfactory; in the other, which is still under treatment, the improvement was only partial.

In the remaining four cases there were hallucinations more or less acute, and the indication was to suppress and to reduce the hallucinations of sound more or less. Burckhardt believes that verbal hallucinations can only be produced in a brain in which the logonetic paths are intact; for the centers, through whose injury sensory and motor aphasia are produced, are indispensable to all genesis of verbal hallucinations. To cure the hallucinations he attacked these centers, and excised parts of the first temporal and of the third frontal, on the left side. The result was satisfactory, though it may be that the improvement will not be permanent. In case of relapse Burckhardt proposes to return to the charge. The fourth patient died of vascular paralysis six days after the operation, which no doubt was the cause of his death. These results Burckhardt considers to be encouraging. He has continued to pursue this line of treatment for two years. For further light on this subject, *vide* Wm. W. Ireland, M. D., in the *Medical Recorder*.

In *post-mortems* made on the subjects of chronic hallucinations, Luys has recently found (*iconographie photographique des centers nerveux*) coarse morphological changes in the paracentral lobule perceptible to the naked eye;

and Mickle (Spring Number of *Brain*) has found marked architectural deviations in the convolutions and microscopical changes in the cortical nerve cells.

Alcoholic neuritis and polyneuritis from other causes have received much attention, and the latter has been more clearly differentiated than formerly from locomotor ataxia and anterior spinal sclerosis, and the way has been opened for avoiding former mistakes in diagnosis where polyneuritis has simulated posterior spinal sclerosis in its symptomatic expression.

New cases of alcoholic paralysis have been reported by Dr. Kojevnikoff in which there existed psychic phenomena and loss of memory. Paralysis was more marked in the lower than in the upper extremities and existed in greater degree in the extensors than in the flexors. While there are anatomical changes in the central nervous system in alcoholic paralysis, the lesions in peripheral nerves are of greatest moment, consisting of multiple parenchymatous neuritis. In the cord there are parenchymatous lesions at times, and in other cases interstitial or sclerotic processes. In the brain the cortex is oftener affected than the white matter. All the lesions present are quite independent of each other and have nothing in common save their original cause—namely, alcohol. Multiple neuritis is the anatomical substratum of the clinical manifestation known as alcoholic paralysis.

In psychotherapy, the tranquilizing power of cephalic electrizations by the constant current battery, as promotive of sleep, has been further proven and accepted, and among the other therapeutic agencies, codia in meconism and as a substitute for opium in the treatment of hyperæsthetic neuropathies; sulphonal, amylene-hydrat, hyoscin, urethan, hypnol, chloralamide, somnal, acetanilid, and the coal tar products generally, as valuable hypnotics and analgesics, have been further confirmed. In the therapeutics of insomnia and unstable nerve control nothing has yet supplanted chloral and the bromides, and opium, valerian and the anæsthetics. Chloral hydrate has had a

new use assigned it in the management of chorea—a use not novel to your reporter however.

Ferrier's cerebral localizations continue to stand the confirmatory test in the main of pathological demonstrations, and their clinical utility has been proven in the brilliant results of Victor Horsey and his followers, while Hitzig's and Fritch's discovery of cerebral impressibility to isolated electrode impression, which made Ferrier's subsequent researches a possibility, have been found during the year to possess clinical value for diagnostic purposes.

The microbe of tetanus appears to have been fully confirmed.

M. Reynier, in the *Revue de Chirurgie*, experimented with a culture of these germs, producing on animals, in every instance, after the inoculation, typical tetanic symptoms and death. The bacilli of Nicolair was found in every *post-mortem*.

Some new phases of Thomsen's disease—myotonia—have been presented, looking in the direction of its cerebral localization, and also to the abolition of the idea of heredity as an invariable essential to its existence. We seem to be closely approaching a period when this functional nervous affection is to have announced for it a distinctive pathology.

The *Union Médicale* for April 7, 1891, contains an abstract of Dr. Déléage's recent thesis on Thomsen's disease, in which the following observations and differentiations among others of less importance are made:

In the diseased muscle there is increase in the volume of muscular fibers, increase in the number of nuclei and hypertrophy of non-differentiated protoplasm, this latter condition bringing about a degeneration and atrophy of the contractile substance. \* \* \* Congenital myotonia is a disease of muscle, due to the persistence of or a reversion to the embryonic type of muscular tissue, and constitutes a parenchymatous myopathy somewhat akin to pseudo-hypertrophic paralysis. In familiar myopathies there is hyperplasia of interstitial connective tissue. In Thomsen's disease there is hyperplasia of protoplasm. The morbid conditions with which this state may be confounded are pseudo-hypertrophic paralysis, tetanus, hysteria, neurasthenia, muscu-

lar hypertrophy, spasmodic spinal paralysis or pseudo-locomotor ataxia, Eulenberg's congenital paramyotonia and intermittent paralysis of vascular origin.

Déléage notes the fact that this disease, which is slowly progressive and incurable, may be associated with locomotor ataxia, reflex epilepsy, etc. It appears to have been associated with an epileptoid, excepting the spasms were rather more tonic, and the will always ultimately overcame them, in a case reported by Dr. A. B. Shaw, in the *ALIENIST AND NEUROLOGIST* for January, 1890, as atypical myotonia, and by myself in the same journal as neuromyotonia. The spasms in this case were undoubtedly the true *intention spasms* or *arrest volition spasms*, if I may be allowed the expression, which characterize this peculiar spasmodic affection. This case, subsequently reported with the sequent operative procedure by Drs. Bremer and Carson (*American Journal Medical Science*, September, 1890) tends to throw some light upon the probable seat of Morbus Thomsenni, placing its location in the motor area of the cortex. In this case an old scalp scar was found about two and a half inches above and a little back of the external auditory canal and parallel to the saggital line. An interrupted galvanic current, three to four milliamperes applied here, caused the peculiar spasms. There were none of the usual symptoms of cerebral tumor; yet in this case a vascular tumor or blood cyst, communicating with branches of the lenticulo-striate artery was found. The tumor (?) was pronounced an angioma cavernosa, occupying a certain portion of the motor area of the cortex. Cerebral angiomata have hitherto been found to be of congenital origin. In this case it may have originated when the cranial injury was received, of which the patient had no recollection. In this case the Thomsenian spasm was not congenital.

Does it not look, with these two reports in view, though the latter was made for a different purpose, as if there were light falling on this obscure subject? Angiomata being ordinarily congenital; Thomsen's disease being

likewise. Angiomata slowly increase in size with the advance of years, the gradually increasing pressure of the psycho-motor area of the brain from vascular growth bringing about the muscular degenerations which finally characterize it.

In Thomsen's disease, "usually there are psychic disturbances also. Heredity is an important factor. The disease appears in early childhood as a general thing, sometimes lying dormant till roused by excessive fatigue or exhausting emotion. Sensation is normal, the knee-jerk is seldom altered, fibrillary twitchings are sometimes present, and the sphincters and all unstriated muscular fibers are unaffected. There may be great depression of spirits, taciturnity, attacks of delirium, intense willfulness, or even subnormal intellect."

These symptoms all point to the cerebral cortex and do not point away from the psycho-motor area or basal ganglia. The disease does not show itself in infancy, though boys and girls may have it, but after a certain time has elapsed for cortex angiomata to sufficiently develop to become sources of psycho-motor irritation and impediment to muscular nutrition and movement. Let us, with the light before us, search the cortex, and seek for congenital angiomata in future cases for the cause of myotonia congenita.

At all events, the illumination of the past year reveals a probable organic basis for this hitherto regarded functional nervous disease, and this is progress.

A study of chorea in children, made by Leroux (*Rev. Mens. des. Malad. de l'Enf*, June, 1890), contributes largely to the overthrow of the theory of its rheumatic origin. He believes that a form of chorea is sometimes encountered that is essentially rheumatic in character, but that in most cases the union is not so direct as to prove that the chorea is an expression of rheumatism. During three years, he followed, at the Dispensary of Furtado-Hein, all cases of chorea, slight and severe, noting especially the rheumatic and cardiac manifestations. Among 162 cases thus observed, 82 showed no rheumatic symptoms



while under observation. The antecedents, however, were not noted, and the patients were not followed very closely. They are therefore thrown aside, and conclusions are drawn from the remaining cases only. Analysis of these cases shows the following results:.

Chorea with acute articular rheumatism, 2 cases.

Chorea with articular rheumatism preceding or alternating with the choreic symptoms, 2 cases.

Chorea with vague pains in joints, but with no fever, 13 cases.

Chorea without rheumatic symptoms, 62 cases.

Thus in 80 cases but 5 had distinctive rheumatic symptoms. In every instance the history was carefully taken, and the patient followed long after cure was effected. Three or even four relapses were seen in some cases. The author believes that it is not right to consider as true rheumatism the vague joint pains which so frequently accompany chorea. There are many cases of chorea without rheumatism, and many cases of rheumatism without chorea. Chorea is most frequent between eight and twelve years—at the time when growing pains are common, which he evidently believes are not rheumatic. Rheumatism is most common between twelve and fifteen years. Between eight and fifteen years chorea is more common than rheumatism, and growing pains are more common than both chorea and rheumatism combined.

Examination of the heart in these 80 cases revealed a mitral murmur in 5 patients. The lesion was evidently old. Every one of the five patients had measles, and but one subacute articular rheumatism. Eight had anæmic murmurs—three at the apex and five at the base. The remaining cases showed no evidence whatever of cardiac disease.

A history of preceding nervous disease was rare. But three children had had convulsions; two had been subject to migraine. A study of heredity showed that chorea had occurred in the father in but one instance. Fourteen



mothers were distinctly hysterical, and this the author believes is a point of considerable importance. Alcoholism is also an etiological factor of much importance. Of these cases, the father had been undoubtedly alcoholic in twelve. The father had been rheumatic in five instances, the mother in seven, the father and mother in one. These figures confirm the author's belief that chorea is not of rheumatic origin, but a true nerve disease.

Alexander Hackin has sought to demonstrate anew the neurotic theory of cholera (*vide* ALIENIST AND NEUROLOGIST, January, 1891), a view long ago held by your reporter and others (*vide* ALIENIST AND NEUROLOGIST, January, 1885, and April, 1888).

Marked progress has been made during the past year in the recognition of the neural factor in dermatology. The position taken some years ago by Erasmus Nilson concerning the nervous form of eczema, has been affirmed by Bulkley, the cutaneous changes of syringomyelia have been exhaustively studied by Thibierge. Lichen planus in neuropathic subjects has been made matter of note by Feulard, and melanoderma has been found to be of nervous origin by Girode. Louise Fiske Bryson thus comments on this and kindred subjects, in "Reports on the Progress of Medicine, in *N. Y. Med. Jour.*, March 7th :

The influence of the nervous system upon pigmentation and its anomalies has been for some time a matter of record and observation. Abnormal pigmentation has all the outward forms of a neurotrophic activity, due to vasomotor disturbance. Whether of this origin or brought about by essential change in cell structure, nervous influence upon nutrition is the chief factor in pigmentary changes. Vitiligo (Liloir), lepra, Addison's disease, etc., have been known to follow moral shock. Kaposi's analytical study of pigmentation throws much light upon the subject. In one of Girode's cases the dark discolorations followed in their course the branches of the left brachio-thoracic nerves. In the other, patches existed along the region of the left eleventh intercostal nerve. Treatment was practically without avail.

Hammond's claim for athetosis as a distinct nervous disease has been confirmed, not only by later clinical records, including our own case of bilateral athetosis

caused by a railroad accident, but by *post-mortem* in the original case made by Dr. Græme M. Hammond.

I have seen during the past year three cases of exophthalmic goiter with associated mental symptoms, and Dr. Chas. M. Hays, of Philadelphia, has lately called attention to a similar number of cases of this complication.

In the *Archiv. für pathologische Anatomie und Physiologie und für Klinische Medicin*, Dr. K. Yamagiwa reports two cases of severe cortical epilepsy in which *post-mortem* sections of the brain cortex revealed disseminated patches of *distoma pulmonali*. Microscopic sections showed in connection with these parasites giant cell and round cell infiltration, thickened blood-vessel walls and new connective tissue growths. The distoma were also found in the lungs..

Some clinical additions have been made to the record of chorea in the aged, and Hadden reports having found it in a young man of twenty-eight years. An autopsy by Tissier supports the claim of Nixon that chorea is due to a lesion of the motor area of the cortex, while Dana, by autopsic proofs, has extended its *locus morbi* to the intracranial motor tract, starting in the cortex.

A recovery from paresis has been recorded by Voisin and Wendt, and certain trophic changes, by Féré, while T. Clay Shaw, a lecturer in St. Bartholomew's Hospital, trephined a case with apparent success. The diagnosis was confirmed by Ferrier.

A patient of mine who died of apoplexy during the past year, after he had been well enough and clear-headed enough to attend to business for four years, with no sign of mental trouble, was treated by me five years ago for paresis with all the characteristic oral, motor and mental symptoms. His delusions of grandeur led him to think at one time that he owned the earth. I call this a recovery from general paralysis of the insane.

Regis and Friese have practiced suspension in this disease with some benefit, especially in the diminution of

the tremor, the ataxic gait and speech disturbance, a beneficial influence which I have confirmed, in part at least, in the recent similar management of paralysis agitans.

The treatment of neuralgia, neuritis and migraine have not materially changed since last year.

The neuropathic sequelæ of surgical procedures, of psychical shock and railway concussion violence, have been subjects of special study during the year. The subject was discussed in the Neurological Section of the American Medical Association, several important papers having been read on the subject, and it is beginning to attract additional attention from the medical press. Dr. Harold N. Moyer has lately presented some new thoughts on the manner and value of expert testimony and the intelligence of railway surgeons on this subject in the *Railway Age*. The title of his paper is "Medical Jurisprudence of Railway Surgery."

It would be difficult to mention a classical neurosis to which some clinical addition has not been made during the past year, and few diseases could be named in regard to which some advance, diagnostic, pathological or therapeutic, has not been made, and to mention all would wearily lengthen this report and destroy its interest at this time when we are away from home rather for relaxation than excessive labor.

The chief diagnostic advance has been made in the discovery of a new reflex—the *virile reflex*, as described by myself—or the bulbo-cavernous reflex, differently elicited but quite similar in value, as described by M. Onanoff. *Vide* ALIENIST AND NEUROLOGIST, January, 1891, and "Transactions Société de Biologie," page 215.

For eliciting this phenomenon M. Onanoff proceeds in the following manner: "The index finger of the left hand being placed upon the region of the bulb of the urethra, the right hand rapidly rubs the dorsal surface of the glans with the edge of a piece of paper, or again lightly pinches the mucous membrane. In these conditions

the index finger applied upon the region of the bulb perceives a more or less intense twitch which is in relation with the contraction of the ischio and bulbo-cavernosus muscles."

The following are my methods and observations:

If you take a perfectly healthy individual, whose spinal cord is entirely normal, especially in its genito-spinal center, and place him on a couch without head-rest, supine, and nude about the loins, and make the sheath of the penis tense by claspings the foreskin with the left index finger and thumb at about the place of the frænum, and pulling it firmly towards the umbilicus, placing the middle, ring and little finger low down upon the dorsum of the virile organ, for perceptive purposes, and then sharply percuss the dorsum or sides of the penis, near the perineal extremity, a quick and very sensible reflex motor response or retraction of the bulbo-cavernous portion will be felt to result from this sudden percussional impression, like that which follows, though less pronounced in the testicles, after sensory irritation of the inner aspect of the thighs, and known as the cremasteric reflex. The reflex jerk is away from the irritating impulse, though it is down towards the perinæum in the penis reflex, while it is upwards in both the cremasteric and patellar tendon phenomena. I have not seen this phenomenon described before.

This reflex symptom is of important clinical and physiological significance. Its full value for diagnostic or prognostic purposes has yet to be determined by further investigation than I have given it. But I have learned enough to confidently commend it to neurological clinicians.

I have called it the virile reflex, because it seems to be actively present in all healthy adult males with normal spinal cords, whom I have examined, and absent in infants and feeble, or absent in male children who have not attained the age of puberty. A number of years ago I

ventured the assertion that the absence of the cremasteric reflex would be found of significance in the determination of impaired virility from sexual excess and masturbation. This, subsequent experience has only confirmed. Now this new sign—the penis percussion reflex—present, impaired or absent, gives another valuable evidence of the vigor, impairment, loss or abeyance of the sexual powers in man

After prolonged excessive venery it becomes impaired or disappears, to return again with sexual recuperation.

After excessive masturbation, long continued, with accompanying neurasthenia, I have found it impaired, but seldom entirely absent in young subjects. It is not impaired in masurbation when the habit has not destroyed the sexual power. It disappears in some cases of chronic meconism, and becomes abeyant in long and beastly intoxication, though often excitable in acute alcoholism. This subject needs further investigation.

It is lowered and abeyant in the later stages of typhoid fever, and I have found it also in the moribund state. I have found it absent in old men who have acknowledged and sought treatment for entire virile incapacity.

It is often, but by no means uniformly found in sympathy with the other reflexes in spinal cord disease of the lumbo-dorsal spine, as the quadriceps extensor femoris tendon reflex, the anal, vesical and cremasteric reflex, the achilles reflex and ankle clonus.

A kind of erector penis clonus, characterized by a succession of jerks, continuing after the percussion or while the foreskin is kept stretched, much like the characteristic ankle clonus, having been elicited in one case of transverse dorsal spinal myelitis with double ankle clonus only to fade away as the ankle clonus disappeared. I found it absent in another case.

This phenomenon may also be elicited by suddenly jerking the foreskin after it has been made tense, or by pinching the theca of the penis when it is in this stretched condition. This reflex, when weak, may be



reinforced like the knee phenomenon, by friction of the glans-penis with a piece of paper—M. Onanoff's method of eliciting it. Electrical excitation will also evoke it. A clonus may sometimes be elicited in this way.

Some skill in palpation—a sort of *tactus eruditus* is necessary in examining for this sign, the characteristic jerking back of the bulbous urethra within the sheath of the penis being felt only when carefully sought for. It is not ordinarily to be seen.

This sign does not always sympathize with the other reflexes in spinal column or cord diseases. I have lately found the sign absent in the case of a married man, aged forty-five, sent me by Dr. Charles Barck, the accomplished ophthalmologist of the Marion-Sims Medical College, who diagnosed white atrophy of the retina. This man had also unequal pupils, exaggerated patellar reflexes, and other evidences of *sclerose in plaques*. He gave a history of syphilis, and confessed to feeble virile powers. In him the virile reflex was scarcely perceptible. I found it absent on the same day in another, but older patient, with optic atrophy, unequal pupils and cerebral sclerosis, which I regard as one of multiple cerebro-spinal disease. The optic atrophy was diagnosed by Dr. Post and Dr. Wolfner. This man's age, however, is fifty-six, but the sign is not normally absent at that age in healthy men. I have found this sign absent in the status epilepticus, but not necessarily modified in hemiplegia. It was exaggerated in a case of paraplegia of cerebral origin.

It should receive further consideration at the hands of neurologic clinicians, for it appears worthy a place in clinical neurology with Westphal's paradoxical contraction, Erb's reaction of degeneration, or any of the hitherto recognized diagnostic reflexes.

I supposed myself to be the only discoverer of this phenomenon until I learned from M. Brown-Sequard, to whom I had communicated the fact, that M. Onanoff had preceded me in the announcement of his, differently



elicited, but identical bulbo-cavernous reflex, before the Société de Biologie in May last. Nevertheless, mine was the first clinical contribution on the subject, the name and method are different and the latter much more delicately brought out.

*The Oral and Anal Reflexes.*—I desire briefly in this connection to also call attention to these new reflexes. The oral reflex may be best elicited by means of a wet sponge to the lips in moribund patients when the normal inhibitions disappear just before the death struggle or when they are abeyant a little while preceding the end of life.

Though I during the past winter or spring communicated my discovery of the anal reflex to M. Brown-Sequard, who promised to put it and the oral reflex to the clinical test in the Paris hospitals, I find I have been anticipated on this subject by Dr. Rossolimo, who finds contraction of the sphincter ani when the circumanal skin or mucous membrane is touched, and this reflex is diminished or abolished in tabes, multiple neuritis, sciatica, and myelitis in the lower part of the cord. Exaggeration of this reflex is present in myelitis of the upper portion of the cord in persons of neuropathic tendency in whom cutaneous reflexes are increased. The best method of eliciting the anal reflex, in my experience, is by backward stretching.

(I saw the note of Dr. Rossolimo's anal reflex discovery for the first time since this report was verbally communicated to the State Medical Society, hence did not then mention it.)

It is evident that this reflex too, like the virile reflex, must become of important value in the diagnosis of certain neuropathic states of the cord and perhaps of the sympathetic systems.

There is also an interesting aural reflex which I think will be found of diagnostic value some day in certain hyperæsthetic and otherwise disordered neuropathic states, but which I have not yet fully worked out.

I am persuaded that there are many more reflexes as

M. Brown-Sequard has suggested to me in a recent letter, which will be found and proven to be of value in diagnosis, than are yet recognized. We are approaching the time for their discovery and study.

Morvan's disease, first discovered in 1883, among the Breton peasantry, by Dr. Morvan, of Lannelis, Brittany, and described by him as "True Parisie Analgesique avec Panaris des Extremities Supereures," in the *Gazette Hebdomadaire* for that year, has been observed by others. Two interesting cases are recorded, and the subject discussed and illustrated by George Gainon and L. Datil, in the January and February (1890) numbers of *Nouvelle Iconographie de la Salpêtrière*, and Dr. Archibald Church, Professor of Neurology, in the Chicago Polyclinic, has presented the only American record on this interesting subject that has come under my observation during the past year. The history of this case, together with his discussion of the subject, may be found in the *Chicago Medical Record* for April. Concerning its pathology there is nothing later than Gombault's autopsy, which showed increase in the connective tissue with degeneration and sometimes complete disappearance of some of the nerve fibers, as of the arm, intense changes in peripheral nerves and sclerosis of the posterior columns and posterior horns of the cervical cord. Intense changes in peripheral nerves, slight changes in the cord.

This disease has attracted the following notice during the year from the *London Lancet*:

Morvan's disease, first described about eight years ago by the physician whose name it now bears, is one of those apparently spinal diseases, associated with changes in sensibility and nutrition, manifesting themselves especially in the hands. The three symptoms on which at first a diagnosis was made, were pains in the limbs at the commencement of the illness, paresis and analgesia, especially of the hands, and the appearance in one finger after another of whitlows, painless and destructive. Several cases have been described, but the

pathology of the disease is still uncertain, some physicians regarding it as merely a form of syringomyelia, while Morvan and his followers, relying upon the somewhat unsatisfactory examination of one specimen, regard it as due primarily to some change in the cord, associated with thickened arteries and secondary changes in the peripheral nerves.

*Syringomyelia*.—On this subject nothing more complete has appeared than Paul Blocq's interesting paper in the autumn number (1890) of *Brain*, in the same number of which appear Mitchell Clarke's autopsic differentiations of locomotor ataxia and ataxic paraplegia, together with Sanger Brown's case of acute ascending paralysis (Landry's disease) followed by ataxic-paraplegia. The patho'logical anatomy of Landry's paralysis has been elucidated within the past year, by Nauwerck and Han (*New York Medical Journal*, May 30th) and Barth (*Deutsche Med. Zeitung*, vide pages 238 and 239). But little has been added to the pathology or treatment of these diseases. Not much has been added either to the pathology or treatment of Ranaud's disease. The tendency of later investigation is towards the identification of Morvan's disease and syringomyelia.

*Accromegalia*.—Nothing worthy of extended note has been added to this singular trophoneurosis involving the bony system, since Marie's earlier descriptions (1886), and his later contribution to *Nouvelle Iconographie*. George Gainon, Chief of the Clinic for Nervous Diseases at Salpêtrière, presents some new photographs of a recent case and a paper, which will contribute something to the facility of earlier recognition of this disease.

Dr. Souza Leite's recently published thesis contains, on cromégaly, seven *post-mortem* examinations, tending to establish the pathology of this affection as given originally by its discoverer, M. P. Marie, viz., hypertrophy of the pituitary body, enormous dilatation of the sella turcica, persistence of the thymus and hypertrophy of the cord and ganglia of the sympathetic system.

The reader will find in the *New York Medical Journal* for May 23d, an excellent report on neurological progress, from which I have already drawn somewhat and from which I further epitomize the following additional notes of progress:

*Paramyoclonus Multiplex.*—The thirty-second case of this affection now on record is described in brief in the *Gazette Hebdomadaire de Médecine et de Chirurgie* for April 4th, 1891. The patient, eleven years old, began to experience, after an accident three years earlier, contractions in all the muscles similar to those produced by electricity, those of the face not excepted. An effort of will could lessen their frequency and intensity. Tickling or percussion would induce these contractions.

*The Pathogenesis of Muscular Atrophy in Brain Disorders.*—*Mercredi Médical* for March 18th, 1891, cites Dr. Mouratoff's conclusions upon this subject, presented to the fourth congress of Russian physicians. In cerebro-cranial affections muscular atrophy may develop without accompanying lesions in the cerebro-spinal ganglia. Descending degeneration in the pyramidal tract is not an essential feature in the development of muscular atrophy. In the majority of cases atrophy is consecutive to lesions in the motor area of the cortex. From the point of view of pathological anatomy these are cases of simple atrophy, explainable more readily by the theory of vasomotor disturbance than by the supposition that lesions, whether anatomical or dynamic, exist in the anterior horns.

Dr. Rot's conclusions (*ibid.*): The existence of progressive muscular atrophy independent of nerve lesion must be accepted as a fact. The lesion in the muscles consists in a transverse and longitudinal atrophy of the muscular fibers. Hypertrophy of the fibers is a phenomenon of compensation not connected with the pathological process. As heredity is the only etiological factor that is well demonstrated, the real cause of the affection must be sought for in the portion of the fecundated ovum that gives rise to the muscular system.

*Word-blindness and Agraphia.*—*Medicine Moderne* for March 26th, 1891, contains Dr. J. Dejerine's report of a case of word-blindness, with autopsy. There was complete agraphia and presumably there was hemianopsia, but no optic aphasia or psychic blindness. Transient paraphasia existed. The patient, a man sixty-five years old, ten years earlier had a light attack of hemiplegia, of which all traces had practically disappeared. There was no disturbance of speech. One morning he suddenly discovered his utter inability to read the newspaper. Henceforth the only written or printed word he could comprehend was his own name. When asked to write something spontaneously or under dictation, he would write his name each time, but most imperfectly. In the course of eleven months the patient learned to recognize C and G, and could understand and pronounce numbers expressed in figures not exceeding two. The autopsy revealed in the left hemisphere a yellow

wedge-shaped patch of softening that penetrated as far as the lateral ventricle, destroying the greater part of the optic fibers in its vicinity. In the right hemisphere were also found areas of softening implicating the optic tract. There were no granular bodies in Broca's convolution.

*Xerostomia*.—The subject of xerostomia has received renewed attention from Professor Hugo Samma, of the Marion-Sims College of Medicine, of St. Louis, in an interesting case published by him in the *ALIENIST AND NEUROLOGIST* for April, 1890, and read before the Academy of Medicine.

I draw upon this valuable article for the following concise record of this interesting neuropathic state and case:

It was in the year of 1863, when an anonymous writer in the November number of the *Medical Times and Gazette*, reported a case of complete suppression of the secretion of saliva in a female patient. This report remained unnoticed nearly twenty years, until in the year 1886 Jonathan Hutchinson presented a similar case to the Neurological Society of London, under the name of "dry mouth"—this term expressing the chief features of the malady. The same case was in the following year (1887) presented to the Clinical Society of London, before which, at the end of the same year, W. B. Hadden read a paper on "Dry Mouth, or Suppression of the Salivary and Buccal secretions," with the report of a personal observation.

The fourth case was reported in the beginning of 1888, by William Rowlands, under the title "Permanent Suppression of the Salivary Secretions."

The fifth case was a second case observed by Jonathan Hutchinson, in 1888, and presented to the Clinical Society of London. On this occasion he contended that it was advisable to give to this well-defined clinical state a term which could be accepted by the whole medical world. He proposed therefore to call it "persisting aptyalism," a word which was sharply criticised by Hadden. As the term of ptyalism signifies an excessive flow of saliva, therefore, logically aptyalism would mean the non-existence of an excessive flow, or in other words, a normal secretion. Hadden as well as Hutchinson consulted after this meeting men well versed in classics for a correct term, derived from the Latin or Greek language, and both proposed, independently of each other, to call the disease in question "xerostomia," from *xeros* (dry) and *stoma* (mouth).

In his presidential address before the Neurological Society of London, delivered January 24th, 1889, Jonathan Hutchinson spoke once more of xerostomia as an important illustration of the influence of the nervous system in controlling and entirely arresting the secretion of glands. He alludes to the analogy existing between the different



secreting glands and believes that what we see demonstrated in the mouth in case of xerostomia may occur in other regions and viscera, and that there may possibly be a neurotic arrest of secretion of liver, pancreas, testes, etc.

The patient was a lady thirty years of age. No history of a neurotic disposition in her family. She herself always enjoyed good health except during the previous two pregnancies, when she continually suffered from vomitus gravidarum. At the time of my observation she was pregnant for the third time, being in the seventh month. She suffered again since the second month of pregnancy, from vomitus gravidarum, and since about one and a half months before I was called to see her, from a very troublesome dryness of the oral and pharyngeal cavity. There was an ill feeling in the whole body. The tongue appeared red, devoid of epithelium with furrows, the mucous membrane of the cheeks was pale. Tongue, inside of the cheeks, palate and the back of the pharynx entirely dry. Within a few days of observation it became obvious that I had to deal with a typhoid fever, thus far uncomplicated.

At the end of four weeks complete recovery had taken place. The vomiting of pregnancy as well as the strange affection of the mouth continued. Four days after my last call the lady had a miscarriage, giving birth to a male child almost devoid of subcutaneous adipose tissue and of a very aged appearance. The child only lived two days, and died of icterus neonatorum. Vomiting completely stopped, but no amelioration of the dryness of the mouth could be observed.

This disease began one and a half months before the first symptoms of typhoid fever appeared. It did not disappear with the typhoid fever and the course of the infectious disease did not change at all the pathological condition of the oral and pharyngeal cavity as noticed in the very beginning of the constitutional disease.

*Ocular Troubles in Tabes Dorsalis.*—Dr. Berger, in the *Revue de Médecine*, has drawn attention to this subject. He has observed 109 cases of the disease, and from the results of those observations he draws certain conclusions. He finds that in cases in which the condition has manifested itself in youth or in old age, serious ocular troubles are not met with, and that it is when symptoms of the disease appear between the ages of twenty-five and forty, that those complications for the most part occur. In half the cases observed the Argyll-Robertson phenomenon was present. In eleven cases it was accompanied by mydriasis, in fifteen cases the pupils were of usual size, and in two there was contraction of one with dilation of the other pupil. He also found in a certain number of cases some irregularity in the shape



of the pupil, and he remarks that when myosis is present with the Argyll-Robertson phenomenon the instillation of atropine causes a dilation of the pupil, which may persist for four or five weeks. Atrophy of the optic nerve was found to be present in thirty-three per cent. of the cases, and it did not occur simultaneously in the two nerves. The interval between the commencement of atrophy and the establishment of complete blindness was found by this author to vary from two months to seventeen years, and he states that it usually begins in the pre-ataxic stage, and that, this stage once passed, the danger of atrophy setting in is considerably diminished. Paralysis of the external muscles of the eye was observed in thirty-eight per cent. of the cases. It was found to occur usually in the pre-ataxic stage, to be as a rule transitory, and to be more frequent and more lasting in patients with a clearly specific history. In conclusion, the author formulates a theory of the pathology of tabes. In his opinion it originates in some change in a center in the medulla regulating the vasomotor condition of the optic nerve and of the spinal cord.

Dr. C. L. Dana has recently described, in the *New York Medical Journal*, a new type of degenerative disease of the spinal cord, as follows:

The patient was a woman, æt. 44, who, on her admission into the hospital, could barely walk with assistance. The legs and thighs were considerably wasted, the left more than the right. They were slightly drawn up and she suffered at times from painful contractions in them. The knee-jerk and the superficial reflexes were abolished. There was no cutaneous anæsthesia. She had some disturbance of the bladder. Her bowels were usually constipated, but at times, under nervous excitement, she had an obstinate diarrhea. The arms were not much affected, though they were weak. She was at times delirious and had delusions. Vision was not affected. She gradually grew weaker and after six weeks died. At the *post-mortem* examination the brain appeared normal, as did also the dura of the spinal canal. On opening it, an extensive softening was apparent in the lower dorsal region. Aside from the local disturbances, there were no gross evidences of disease. Microscopic examination of sections of the cord showed the most active and recent process in the lower dorsal region posteriorly. Here the cord was softened by a process necrotic in nature, which was

confined externally by the thickened meninges and internally by a pretty sharply defined wall of healthy cord tissue. At the level of the tenth dorsal vertebra this process had extended farther anteriorly, until it had nearly cut the cord in two. The softened area in some sections was filled with detritus of nervous tissues, and enlarged blood-vessels were seen near the edge. On the outside there was an exudation of lymph. Besides this there was a degenerative sclerosis of the lateral and posterior columns throughout the spinal cord. The process in the lateral columns was confined chiefly to the pyramidal tracts, but in the cervical region it extended forward and involved the cerebellar and the ascending lateral tracts. The posterior columns showed a slight focus of beginning softening in the lower cervical region, and in the lateral columns the degenerative process seemed rather sub-acute.

It was not a hard sclerosis. The spinal nerve roots were not affected, except the posterior roots in the lumbar region. The morbid process, on the whole, was apparently a subacute systemic degeneration with a terminal focal softening. Associated with the last stage was a local reaction inflammation with some lymph exudation. The vessels of the cord showed no marked degree of degeneration, and the morbid process could not be ascribed to the blocking up and obliteration. It seemed to be rather a primary and rapid systematic degeneration, which was cut short by the focal softening, thus causing paraplegia and death.

Pathologically, then, the principal characteristic of this case was its rapid course, its primary character, its systemic disturbance and the terminal softening. The brain was carefully examined and showed no morbid change.

Professor Salemi Pace has added a new name and almost a new disease to the literature of clinical neurology, in that of "partial spinal amnesia." His communication, however, first appeared in 1888, in the Italian neurological journal, *Il Pisani Gazette Sicula*. Up to the present date but fourteen cases in all have found their way into the literature, the last case having been described by your reporter in the preceding month of April, in the ALIENIST AND NEUROLOGIST. A case shortly preceding it was reported by Dr. Graeme M. Hammond.

This rare form of spinal neurosis consists in a loss of the motions necessary for maintaining an individual in the erect posture and enabling him to walk, whilst there is no loss of sensibility or muscular power, or of the ability to move the lower limbs in all directions whilst the patient is recumbent or sitting. This singular form

of imperfect paraplegia of spinal origin was described by that masterly delineator of clinical neurology, M. Jaccoud, as ataxia from defect of automatic co-ordination; and that other and even more renowned French neurological clinician, M. Charcot, has recognized and described it as a motor inco-ordination in *relation to standing or walking*. Our own American neurologist, Weir-Mitchell, had also seen it and called it hysterical motor ataxia, because, I presume, he, like Jaccoud, who had seen it only in females, supposed it to be connected with this diathetic condition.

Romero, in 1885, saw a case in a boy of eleven years, "who after a strong emotion, whilst retaining sensibility and muscular energy in the lower limbs, whilst in bed, to move them in all directions, could not leave the bed in order to stand or walk. He had the will to walk but in trying the first step resembled a child just beginning to walk." He called it dynamic of motor co-ordination.

Dr. Blocq, of Paris, in 1888, saw something of this unique spinal affection and formulated a theory and a name, or rather names for it, based upon this theory. He christened it with the new verbal coinage *astasia* and *abasia*, because he thought the patient while still retaining the power of motion, was afflicted with a sort of *spinal aphasia*, if I may so speak, a loss of the memory of the motor impulses for standing and walking, the patient having lost the memory of those movements which are necessary for standing erect (*astasia*), as well as those of walking (*abasia*).

A brief description of my own case, which may be found in the April number (1891) of the *ALIENIST AND NEUROLOGIST*.

Partial spinal amnesia appears to be a true neuropathia, generally of rheumatic origin, as Salemi Pace affirms, but often apparently of malarial origin also, as the case I have recorded shows, and sometimes doubtless also of hysterical cause, as so many nervous diseases

have the hysterical neuropathia as one at least of its pre-determining factors.

Dr. Thyssen (*Archives de Neurologie*, March, 1891) also makes some interesting observations on this subject, reporting some cases where, though normal walking or standing were impossible, the patient could move about any way on all-fours, climb, hop, jump, swim, etc.

Those who wish to pursue this interesting subject further, will find it elaborated in Professor Salemi Pace's valuable paper in the *ALIENIST AND NEUROLOGIST* for April, 1890 and 1891, the only American medical journal which has brought this interesting subject fully before the profession.

A reporter on neurological progress in the *New York Medical Journal* of May 23d, who regards this as a psychopathic affection, thus discusses the subject:

This condition might be confounded with the inco-ordination of locomotor ataxia and Friedrich's disease but for the fact that in these inco-ordination is present during all movements and not alone in standing and walking. Hysteric ataxia, as described by Briquet and Las-sègue exists only when the eyes are closed. Hysterical paraplegia with absence of power is the same whether the patient stands, sits, or lies down. In rhythmic chorea there are cadence and regularity in the muscular movements. Bamberger's saltatory reflex convulsion expresses itself by spasmodic paralysis and the exaggerated reflexes of epileptic tremor. To explain the curious phenomenon of astasia-abasia, Charcot and Blocq offer an ingenious psychological theory that is opposed by Binswanger and severely criticised by Möbius. This theory is based upon our knowledge of acquired movements. The greater part of all centers for function are found in the brain and spinal cord, especially centers for associated movements, such as standing, walking, swimming and playing upon various instruments. A spinal center might possess the material for action, so to speak, and be directed by a cortical center, "by psychological memory," which would indicate the kind of impulse necessary to determine the special function. Blocq admits differentiated cellular groups in the cortex for standing and walking, which are acts that require a long apprenticeship. These groups are doubtless connected with special commissures that bring them into close relation with corresponding groups of cells in the spinal cord. Experiment confirms this hypothesis, notably in the automatic movements of decapitated animals, such as walking, swimming or flapping the wings. B. Salemi Pace thinks that the influence of the cord preponderates, basing this assumption upon observations of special and partial functional modifications of the spinal marrow, resulting in loss of motor

memory, both dynamic and static. Psychologic memory, then, may be said to reside in the cortex, and organic memory in the spinal cord. Each case of astasia and abasia must be studied on its own merits, to determine whether the impulse centers or the execution centers are at fault, whether the cause of interrupted function lies in the brain or in the cord. Fear can paralyze. Now, fear is one of the exciting causes of astasia abasia, this condition being an emotional paralysis due to self-suggestion that arises in loss of muscular power. Though the changes brought about are usually dynamic, they occupy the same locality and induce the same clinical symptoms that would appear in a case of organic lesion. The presence of hysteria, hypochondriasis, neurasthenia, or other disorder, is in itself insufficient to account for astasia-abasia.

I am fully aware of the incompleteness of this report, but I have given it all the time I could spare from other exacting demands upon me.

To have chronicled the entire progress of neurology during the past year would have necessitated the writing of a very large volume, and then not the half of neurological advance would have been even cursorily told.

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# SELECTIONS.

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## NEUROTHERAPY.

STRETCHING THE SPINE IN LOCOMOTOR ATAXIA.—Chas. F. R. Stillman, of Chicago (*Weekly Medical Review*, Sept. 6, 1890), after a historical review of the subject, beginning with the inaugurator of the treatment—Motchoukowski, of Odessa, describes apparatus which he has specially devised for the purpose. It consists of curved boards, against which the patient leans, the curve being increased or diminished by means of a strong screw. Traction is affected by means of pulleys and weights attached to a sling under the chin and occiput. The arms may remain free for exercise with dumb-bells, elastic cords or pulleys, or slings may also pass under the axillæ, as in the Sayre method.

If the posterior surface of the trunk is placed against the curved board, and traction on the spine is exerted by means of the pulleys and weights, the spine will be in a state of extension, the chest capacity will be increased and abdominal muscles stretched, with a minimum of fatigue to the patient.

These frames have been, according to their construction, designated by the author as the upright and recumbent, respectively. The recumbent is constructed upon the same principle as the upright, but a longer continuance of the traction is permissible while resting upon it than when the upright form is used, and it is, therefore better adapted for patients of delicate physique and those in advanced stages of disease.

It should not be lost sight of that in the use of these frames the patient is combining rest with traction in a greater degree than is possible in suspension by the Sayre method.

The author would advocate in the treatment of locomotor ataxia, in addition to the constitutional treatment:

I. The use of both the erect and recumbent curved traction frames as being superior both in principle and practice to the Sayre suspension apparatus employed by Motchoukowski and Charcot.



2. The use of traction while the spine is curved anteriorly, to produce the greatest possible degree of elongation of the cord and spinal nerves consistent with a requisite amount of rest, comfort and freedom from danger.

3. The use of traction while the spine is curved posteriorly, to increase the vital power.

4. The use of appropriate gymnastic exercises during the curved traction to restore impaired muscular function and improve general nutrition.

5. The use of appropriate forms of electricity and massage during traction.

Figure 7 represents the patient exercising upon the upright frame while traction is being exerted upon the spine.

Figure 8 represents the recumbent frame in use.

Figure 9 represents a brace designed by the writer to overcome the flexion almost constantly met with in these cases.

The object of this apparatus is the restoration of the normal curves of the back, and the mechanical problem thus presented is resolved into the reduction of the dorsal curve, since the cervical and lumbar are merely compensatory and tend to regulate themselves.

TREATMENT OF PERIPHERAL FACIAL PARALYSIS BY THE FARADIC ELECTROPUNCTURE.—Dr. Jules Mascarel, in a paper read before the Société de Biologie, of Paris, at the meeting held in May, 1890, gives the results of a new treatment which was used in eight or ten cases with uniform success. All the patients to whom he applied the treatment were operated on within eight or ten days after the onset of the symptoms.

The following is the method: A platinum needle is plunged deeply (about 8 or 10 millimeters) in the direction of the stylomastoid foramen, *i. e.*, towards the origin of the facial nerve from the cranium; then a second needle is inserted deeply in a parallel direction into the thick part above the eyebrow on the paralyzed side of the face; wires are then attached to these needles and connection with a small battery supplied with bisulphate of mercury is made. A series of intermittent currents are now passed for four or five minutes. In this manner the soft parts between the two poles are completely agitated. The next day the maneuver is repeated in this way: The first

needle is plunged in the direction of the stylo-mastoid foramen as before; the second, into the muscular fibers at the base of the lower eyelid; the free extremity of each needle which terminates in rings is then touched simultaneously—the one with one of the electric poles armed with olive-colored copper, the other with a small metallic brush of the same metal. The current is now passed for about 20 seconds (more or less) at a time, according to the tolerance of the individual. On the third day the procedure is similar, save that the facial needle is successively lowered from the orbicular muscle to the small muscles about the cheek-bone. On the fifth day, the orbicularis oris is reached and the paralyzed muscles of the lips. On the seventh and eighth days, the muscles making up the soft part of the chin on the paralyzed side. On the ninth day the operation is completed by running the brush all over the surface of the paralyzed cheek.

One case is given at length. A coachman, after great exposure, became entirely paralyzed on one side of the face so that he experienced difficulty in speaking, masticating and swallowing food. After three days of useless treatment, he came under the care of M. Mascarel, who at once instituted his treatment. After the eighth seance the man was able to close his eye completely and the angles of the mouth and facial expression were normal.

Dr. Mascarel's conclusions are as follows:

1. It is possible to make disappear in 40 to 45 minutes a rheumatic paralysis of one side of the face by the aid of acupuncture combined with faradic currents of feeble intensity.
2. The electro-puncture seances should never exceed four or five minutes and be in proportion to the intensity of the disease and the susceptibility of the patient.
3. The seances should occur three or four hours after a meal.
4. Operations should be begun during the first eight or ten days after the onset of the disease.
5. It is very probable that the same results would not be obtained if the disease were of longer duration.—From the "Weekly Report of the Proceedings of the Société de Biologie," May 9, 1890.

T. D.

THERAPEUTICS AS APPLIED TO NERVOUS DISORDERS.—Dr. W. R. Birdsall says that while admitting that many of the diseases which the neurologist was called upon to

investigate were practically incurable, the author maintained that those who saw no advance in the therapeutics of nervous diseases were probably looking in the wrong direction for progress, the advance being in great part the outcome of those very investigations considered by many as unpractical scientific refinements. The early diagnosis of disease he regarded as the most important factor for therapeutic success in diseases of the nervous system, as it frequently enabled the physician to check the course of the disease where marked disability had not yet resulted. Hygienic measures were considered of prime importance, and pharmaceutical remedies as valuable accessories, in the treatment of these diseases. All relation between storage and expenditure must be readjusted to the disturbance in equilibrium, and the therapeutics consisted in bringing about such a readjustment by any means in our power. The modern craze for so-called physical culture, the author believed, was bringing forth dangers as great as those it was sought to remedy, through over-training, improper training, training for brain workers which fatigued rather than rested the brain, together with other faulty methods. Hydrotherapy he considered was much neglected, and electrotherapy overestimated. Next to hygiene, cutaneous irritation was decidedly the most important therapeutic measure possessed by the neurologist.—*New York Medical Journal*, July 19, 1890.

THE PREPARATION OF CANTHARIDINATES.—Prof. Oscar Liebreich gives the following directions for the preparation of cantharidinate of potash or soda. The cantharidinate of soda, as well as the other salts of cantharidinic acid, described by Dragendorff and Masing, are not purely chemical bodies, owing probably to the variable quantity of cantharidin mingled with them, so that they have not hitherto been capable of being used for exact dosage. To obtain a constant solution, weighed quantities of cantharidin were dissolved by prolonged heating with alkali, and then carefully diluted to the required degree of concentration. It results from this that the quantity of alkali theoretically needed for the conversion into catharidinate was not exceeded, so as to keep the catharidinate in solution. A large number of experiments showed that to obtain a solution which would remain clear on dilution and cooling, it was necessary to use twice as much potassic

hydrate, and half as much again of sodic hydrate as of the amount of cantharidin employed. The alkali must be pure, dry, and free from carbonic acid. Solutions were therefore prepared as follows: Cantharidin, 0.2 gm.; potassic hydrate, 0.4 gm.; most carefully weighed and heated over a water bath in a 1000 ccm. flask, with about 20 ccm. of water, until a clear solution resulted; then water was very gradually added, whilst still heating, to about the full quantity, which was quite completed after cooling. Or, cantharidin, 0.2 gm.; sodic hydrate, 0.3 gm. were dissolved in the same way up to a litre.

COCAINE POISONING.—Doctor A. E. Roussel, in his "French Notes" for the *Medical Digest* department of the *Times Register* has translated from *Le Bulletin Medical*, M. Hallopeau's history. An interesting case where an injection of  $\frac{1}{4}$  grain of hydrochlorate of cocaine in the neighborhood of a decayed tooth was followed by prolonged symptoms of acute cocainism. Which he accompanies with the following conclusions from his own personal observations.

1. A single hypodermic injection of cocaine may give rise not only to immediate symptoms of a severe type, but also to prolonged troubles of a painful character.

2. These symptoms much resemble those noticed shortly after an injection. They particularly consist of a persistent cephalalgia, accompanied by profound malaise, insomnia, and prostration, accompanied by vertigo, as well as cerebral excitation, which manifests itself by loquacity and great agitation.

3. Small doses of the medicament may be sufficient to cause the above.

4. Their duration may be of several months.

5. They are especially observed in patients of an excitable nervous system.

6. They may be attributed to an elective action of the poison on certain nervous centers.

SULPHONAL IN CHOREA.—In a recent number of the *Medical News*, John A. Jeffries, M. D., gives in full the clinical histories of ten cases of chorea which were treated with sulphonal, either alone or in conjunction with arsenic. Of the ten cases only five were of recent origin, and these all recovered within three weeks. In two of them, arsenic had failed, in two it was never

used; in the fifth either arsenic or sulphonal alone failed, but when used together they quickly brought about an improvement. As to the five cases which were of long standing, four were at the age of puberty; three got well, at least for a month; in three arsenic had failed; in two it was not used. Two did not recover with any treatment. It is the opinion of Dr. Jeffries that sulphonal is to be regarded as a valuable adjuvant to arsenic. On sulphonal alone many cases are apt to grow pale and show the need of a tonic; this want arsenic supplies, and at the same time affects directly many cases of chorea. The doses in which sulphonal was employed, were five or six grains for a patient of fifteen years, and three grains for one of four years.—*Canada Lancet*, September, 1890.

DANGERS OF SULPHONAL.—Although sulphonal is probably one of the safest, as it is one of the most efficacious, among the hypnotics recently introduced, the series of cases published by Bresslaur, of Vienna, show clearly that it has certain dangers. The degree of peril is difficult to estimate, as the patients were lunatics, and were also apparently feeble; but the fact is significant that out of seventy-seven patients who were treated with the drug no less than seven showed serious symptoms, and in five of those there was a fatal termination. It ought to be mentioned that the patients had been taking the drug for a considerable time in good doses, and had borne it well till symptoms of disturbance set in, these being great constipation, dark brown urine, slow or in some cases rapid but feeble pulse, discolored patches resembling purpura on the limbs, and great prostration. In the cases which ended fatally the cause of death was heart failure, with œdema of the lungs.—*London Lancet*.

CROTON-CHLORAL IN NEURALGIA.—H. A. Hare (*Medical News*, August 30th, 1890) calls attention to the relative value and safety of croton-chloral in the treatment of insomnia due to neuralgic pains. The dose for ordinary neuralgia as about 5 grains. But as much as 40 grains may be given without producing any more noteworthy effects than 20 grains of ordinary chloral so far as the heart and respiration are concerned.

The drug produces the happiest effects in functional insomnia, being less efficacious in insomnia due to organic



lesions, such as phthisis. Neuralgias of nerves, other than the cranial, are rarely benefited by butyl-chloral. Moderate doses of croton-chloral can be given even in cases of heart disease.

AMYLENE HYDRATE IN EPILEPSY.—Nache agrees with Wildermuth as to the value of amylene hydrate in epilepsy, even where bromides have failed, and where the attacks are not only very frequent but severe. He uses a ten-percent. solution of the drug, and gives from one to two tablespoonfuls a day (from 30 to 90 grains). Nache also believes that *petit mal* and nocturnal epilepsy are benefited by the drug.—*Medical News*, Sept. 6, 1890.

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### CLINICAL NEUROLOGY.

ARGYLE-ROBERTSON PUPIL.—At the February meeting of the Berlin Medical Society, Mendel read an interesting paper on this condition, of which the following is a condensed abstract taken from the *Centralblatt f. pr. Augenheilkunde*, February, 1890: In 1869, Robertson first called attention to a special symptom in patients suffering from nervous disease. In eyes of normal vision and appearance the pupils failed to show the least direct reaction to light, contracting, however, readily on accommodation for near objects on convergence. His observations were confirmed by other observers, and Erb showed that this symptom appears especially in two diseases, namely, tabes and the progressive paralysis of the insane, and in them so constantly as to be of considerable value in diagnosis, more especially as it is an early symptom, indeed sometimes the earliest. We should therefore be on the watch for it in suspected cases. In consideration of the importance of this symptom it is natural to ask where it is localized, with what changes in the nervous apparatus associated, or by what produced. An affection of the optic nerve will not produce it, as the Argyle-Robertson pupil may be found for years without change in visual acuity, neither can it be due to changes in the peripheral oculo-motorius, as it is hard to see how these nerve-fibers could act to accommodation and not to light stimulus. It only remains, therefore, to accept the view that the defect is somewhere in the so-called "central reflex bow." The first experiments in



this direction were by Flourens, who located the seat of the symptom in the corpora quadrigemina, where, according to his view, the nervous stimulus is transferred from the optic to the oculo-motorius. His opinion has been maintained up to the present time by ophthalmologists, and Magnus sketches the following course of the stimulus: Optic tract, corpora quadrigemina, nucleus of the sphincter iridis, and lastly oculo-motorius trunk to eye. That this view is false, Mendel believes to be shown by the experiments of Oudden, who removed the corpora quadrigemina without observing any interference with the pupillary movements. The seat of the nervous transmission can therefore not lie in them, and Gudden locates it in the external corpus geniculatum, without, however, offering any proof in support of his belief. Mendel, in his experiments, removed the iris as completely as possible in new-born animals (dogs, cats and rabbits). Phthisis bulbi or suppuration destroyed the majority of such eyes; some, however, were preserved which showed during life no impairment of the visual act. All his results showed the following conditions: In those cases in which, in consequence of destruction of the eye, the optic nerve atrophied, there was found in the brain a demonstrable atrophy of the external corpus geniculatum of the opposite side—results already published by Gudden and his pupils. In addition, however, he has found, even when the eyeball was preserved, all atrophy of the ganglion habenulæ of the same side. When in all cases during life the single abnormal symptom is absence of iris-function, and after death an atrophy of the ganglion habenulæ of the same side is found, one is certainly justified in believing that it is the center for the iris-movements. That it is a reflex center is evidenced by other appearances; as the fact that the pupillary fibers of the opticus in part enter the ganglion habenulæ. Besides, Gudden, although regarding the external geniculate body as the iris-center, reports that removal of the anterior corpora quadrigemina causes no disturbance of the pupillary movements, such disturbance, however, following the removal of a "prominence" in front of them. This prominence is obviously the ganglion habenulæ. In support of his views, Mendel mentions that Bechterew and others have in various ways come to the belief that the center for pupillary movements lies in the wall of the

third ventricle, and especially at its posterior part. This belief corresponds fully to the experimental results obtained by Mendel. The question as to the course of the fibers from the ganglion habenulæ to the oculo-motorius is answered by Mendel as follows: He found the ganglion habenulæ of both sides connected by a commissure, corresponding to the lowest part of the posterior commissure. This would be in accord with the physiological postulate that the pupils act symmetrically. The commissure showed a certain degree of atrophy on the side of the atrophic ganglion which could be traced into the posterior commissure, so that according to this the course of the fibers from the ganglion habenulæ to the oculo-motorius would be through the posterior commissure. It is further remarkable that with changes in the pupils, the nucleus of the oculo-motorius was constantly normal. Mendel found, however, in the cell-accumulation of Gudden's nucleus, a difference between the two sides. This cell group is situated below the oculo-motorius nucleus, and Mendel traces out the "central reflex bow" thus: Retina, optic nerve and tract, ganglion habenulæ of the same side, posterior commissure, Gudden's nucleus, oculo-motorius and sphincter iridis. In man a decision will be only possible after careful examination in tabes and paralysis of the exact spot located by Mendel as the pupillary center. Some scattering observations, in part confirmatory, have already been made, though Moeli was unable, in cases of Robertson pupil, to detect any atrophy of the posterior commissure (a reference by Senator in the discussion of Mendel's paper). While the Argyle-Robertson pupil occurs in mydriasis as well as myosis, it is especially observed in connection with the latter.—*Brooklyn Medical Journal*.

#### CEREBRAL LESIONS ALTERING THE TEMPERATURE.—

1. The normal rectal temperature of a rabbit is between 101° F and 103° F.
2. Neither an anæsthetic nor a slight operation on the brain affects the temperature much unless some special part of the brain is damaged.
3. Lesions of the corpus striatum, if not large enough to cause shock and hemorrhage, lead to a considerable rise of temperature, on the average equal on the two sides of the body, even if only one corpus striatum is damaged.

4. Lesions of the septum lucidum also cause a rise of temperature.

5. Lesions of the optic thalamus do not alter the temperature.

6. Lesions of the white matter around the corpus striatum and optic thalamus do not cause a rise of temperature.

7. Lesions of the cerebellum do not alter the temperature.

8. Lesions of the posterior part of the upper surface of the cerebral cortex of the rabbit may cause irregular alterations of temperature, which are quickly produced, and last only a short time. Sometimes the temperature falls, sometimes it rises, sometimes there are several rises and falls after one operation—characters very different from the rise of temperature produced after lesions of the corpus striatum.

9. Lesions of the crus cerebri cause a considerable rise of temperature.

No completely satisfactory explanation of these experimental results can at present be given. I have elsewhere pointed out their bearing upon evolution and upon medicine. The fact that a minute lesion in the corpus striatum can cause a considerable rise of temperature, and that the rise only lasts some hours suggest that the effect is irritative, although the central nervous system does not usually respond to mechanical stimulation; still it is quite possible that in the case under consideration the effused blood and serum act as irritants, for we know that in man unilateral convulsions may follow hemorrhage in the opposite side of the brain.

Most observers who have performed experiments with a calorimeter, and upon the amount of carbonic acid gas excreted, consider that the rise of temperature produced by lesions of the corpus striatum is due to an increased production of heat, and indeed the uniformity, the regularity and the extent of the rise suggest this. It is interesting also to notice that the corpora striata first became well developed in warm-blooded animals, but great stress must not be laid upon this as an argument until we are more sure of the precise homologues in the lower animals of the corpora striata in the upper. We are still more in the dark about the interpretation of variations of temperature consequent upon lesions of the cortex. Considering their very irregular and rapid character, it is tempting to assume that certain parts of the cortex are concerned in

maintaining the balance between the production of heat and its loss, but much evidence must be collected before anything certain can be said upon this difficult point.—*British Med. Jour.*

RAYNAUD'S DISEASE (SYSTEMATIC GANGRENE OF THE TOE).—At the Liverpool Medical Institute, Dr. Davidson showed a boy, aged 13, suffering from the above. The boy had begun during the frost to wear a pair of boots much too tight for him. He observed on taking them off at night that his feet were quite white and cold, but continued to wear them for some days, hoping that this would wear off. The feet, however, became swollen, purple, and painful, and then the gangrene of the last joints, of the big toe appeared, and on the tips of several others. A line of demarcation was showing on the big toes, and considerable pain was felt in them and some of the others. The history showed Raynaud's three stages,—local syncope, local asphyxia, and gangrene.—*The Provincial Medical Journal*, March 2, 1891, page 186.

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## NEUROPATHOLOGY.

THE RELATION OF EYE-STRAIN TO GENERAL MEDICINE.—Geo. M. Gould (*Med. News*, August 23, 1890), in an eminently practical address before the Philadelphia Hospital Medical Society, says that eye-strain is an enormously frequent, fertile and unsuspected source of non-ocular disease. The author's remarks are of especial interest, as his observations were made in his own practice. He asks:

1. What is eye-strain?
2. What is its etiology?
3. How is it diagnosed?
4. What are its effects?

The term eye-strain is usually applied to the irritational inco-ordinations and abnormal exertions of the intra-ocular or extra-ocular muscles. The simple muscular use or strain is, if not entirely absent, often but a small factor. The ciliary muscle is more overworked than the muscles of the hand, whilst the effects are dissimilar. The muscular element, *per se*, is subordinate and *post hoc*. Failure to see this point has led to the woeful error of those extremists who cure all the ills that eyes are heir to by tenotomies.

In the greatest eye-strains patients will aver that the eyes give no trouble. Insufficiency is a mere consequence of ametropia. Correct this and the muscle equilibrium is generally restored. Tenotomy before a lengthy trial of this procedure, is no less than surgical barbarism. The insufficiency is a phenomenon of nerve centers and nerve forces, rather than of strengths or strains of muscle fiber. The etiology of much insufficiency is the disturbance produced by ametropia of the normal relation of accommodation and convergence. *This is patently a nervous phenomenon, pure and simple.* [Italics ours.] This ametropia is almost limited to two varieties, hyperopia and astigmatism. In myopia generally there can be no strain, for there is already too much refraction, hence there can be no strain.

The author believes hyperopia and astigmatism are more common now than ever before. Printing, sewing, schools, commercialism, have given the eye tasks for which it was never made. When eye-strain is fully recognized, spectacles will be as common as noses. The greatest good of spectacles will be prophylactic. The day will come when a conscientious parent will never permit a child, however apparently healthy, to grow to puberty without a scientific examination of the eyes having been made and repeated at intervals thereafter. The consequences of eye-strain are so subtle, so varied, so remote, so peculiar, so unforeseen and so harmful, that only by this plan can they be obviated. A farmer can safely carry for a lifetime five or ten times the defect that a city girl could endure for only a day.

Headache from eye-strain may be recognized by these points: (1) The patient is generally a girl or woman; (2) Pain is located in forehead or temples; (3) Near work aggravates it; (4) It is frequently associated with digestive disorders.

The author concludes by charging the common school system with many of the troubles he has described.

T. D.

PATHOLOGICAL FINDINGS IN A CASE OF ATHETOSIS.—Dr. G. M. Hammond has presented a report to the New York Neurological Society, on the pathological findings in the original case of athetosis, on which Dr. W. A. Hammond's description of athetosis had been based. After briefly referring to the case, Dr. Hammond stated that the portion involved in the lesion consisted of fibrous



connective tissue. Topographically, the lesion was a lengthy one in the antero posterior direction, parallel in its short axis with the internal capsule. Its posterior end invaded the stratum zonule of the thalamus in its posterior third, and the posterior third of the posterior half of the internal capsule. In its anterior extension it crossed the capsule, invading the posterior third of the outer articular of the lenticular nucleus. The author called attention to the fact that the motor tract was not implicated in the lesion, and claimed that this case was further evidence of his theory that athetosis was caused by irritation of the thalamus, the striatum, or the cortex, and not by a lesion of the motor tract.

EPILEPSY AND ANKYLOSIS OF THE ATLAS.—Epilepsy has often been observed in cases of ankylosis of the atlas, and the epilepsy has been regarded in such cases as the result of the encroachment of the bone on the vertebral canal. In an article published in the *Archiv für pathologische Anatomie und Physiologie und für klinische Medizin*, Dr. W. Sommer gives it as his opinion that such encroachment should not be considered as a cause of epilepsy unless it is accompanied by signs of compression of the spinal cord. He founds this opinion on the absence of epilepsy in the case of an anæmic old man who had ankylosis and forward subluxation of the atlas, apparently in consequence of arthritis deformans.—*New York Medical Journal*, September 6, 1890.

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## CLINICAL PSYCHIATRY.

CARE OF INSANE IN LOCAL INSTITUTIONS.—Albert R. Moulton, of Boston (*Boston Medical and Surgical Journal*, August 28, 1890), after reviewing the early treatment, or rather non-treatment or mal-treatment of the insane, beginning with the first hospital for the insane, which was established in Jerusalem, A. D., 491, makes a plea for the State to take under its care the insane that still remain in county almshouses. Most of Dr. Moulton's paper is devoted to going over ground that is already covered and with which alienists are all acquainted. But his closing paragraph presents an old truth in such a forcible way that we quote it:



"Most of the insane who are a public charge are so not because they are primarily paupers, but they become impoverished in consequence of the disease, and in losing the power to support themselves, their families often become more or less dependent; hence it is not too much to maintain that this unfortunate class has a claim upon the Commonwealth out of all proportions to that of the ordinary pauper, who is often such by choice or vice."

The author submits the following propositions:

1. There has been great improvement in the care of the insane in this country, both in almshouses and hospitals since the establishment of the latter.

2. The same degree of difference between almshouse and hospital care has continued.

3. The best method to follow is that in which the State assumes the whole care and expense of the entire number of the indigent insane.

T. D.

STUPOROUS INSANITY FOLLOWING HYPNOTISM. — Mr. Nolan reports a case refuting the notion that hypnotism can be induced indiscriminately without danger. The patient was a soldier, with neurotic taint, who, on being promoted to the rank of lance-corporal, felt unequal to his new duties, and abandoned himself to sexual and alcoholic excesses. While in a state of consequent nervous instability he voluntarily submitted to being hypnotized by an experimenter. Profound hypnosis was rapidly induced by gazing at a bright object. From this state the patient did not completely emerge until the lapse of nearly four months. When brought to the Richmond Asylum he was in a stuporous condition, with eyelids blinking, nostrils expanded, lips pursed and tremulous, hands rhythmically striking the thighs, etc. Neuro-muscular hyperexcitability was subsequently noted, and still later Erlenmeyer's "contracture by antagonistic distension" developed. Throughout the period of stupor the patient was disturbed by a recurring visual hallucination—an old hag, with "cruel and awful" features and "bright and white" clothes, seemed to rush toward him, and then stop at a little distance from him. This hallucination arose during the condition between sleeping and waking, and persisted for some time after associated delusions had subsided. Sleeplessness was successfully treated by the prolonged use of sulphonal. Recovery was complete at

the end of five months.—*Journal of Mental Science*, January, 1891.

TREATMENT OF THE ACUTELY INSANE IN GENERAL HOSPITALS.—A discussion upon this subject in the *New York Medical Record*, by W. P. Spratling, Frederick Peterson and Theodore Diller, was of considerable interest. While differing as to the extent of the applicability of treatment of the insane in general hospitals, all three agreed that for some cases it was both feasible and desirable.

## NEUROPHYSIOLOGY.

THE VISION AREA IN THE ENCEPHALON.—In a note on the seat in the encephalon of the chromatic sense, of the luminous sense, and of the sense of forms, Dr. Vaney, after several observations, arrives at the following conclusions: that the chromatic sense resides in the lowest portion of the occipital lobe, probably in the posterior part of the lingual and fusiform gyri; the luminous sense would be found higher, near the upper part of the occipital lobe, and the center of perception of forms between the two preceding regions. The author had an opportunity of verifying his conclusions in the following case that came under his observation. A woman aged sixty years was seized with cerebral congestion, without loss of consciousness, and accompanied with vomiting. There was a distinct hemiachromatopsia, with partial preservation of the light perception and form. There were no aphasic troubles, no word-blindness, no paresis or paralysis of the extremities. The ophthalmoscope revealed no lesion whatever of the optic nerve. This state remained stationary for twenty months. In March, 1888, the patient succumbed in a few days to an attack of apoplexy, which produced a hemiplegia of the left side. At the autopsy an enormous hemorrhagic focus, of recent formation, was found in the right cerebral hemisphere; the lesion had destroyed the whole of the centrum ovale, the central ganglia, and had penetrated into the right lateral ventricle. There existed a very old lesion, a hemorrhagic cyst, at the inferior portion of the left occipital lobe.—*Lancet*.

PSEUDO-HYPERTROPHIC PARALYSIS.—N. E. Brill (*New York Medical Journal*), reports a case of unusual interest

in a man aged twenty-six years. The trouble in the cord began at the age of eight months. At that period the child gave up its attempts at walking and did not renew them for fourteen months thereafter. There was absence of neuropathic history in the case. When a child, the patient sustained a fracture of the fifth cervical vertebra. The train of symptoms was complex. The symptom of most importance was the sensation of cold, having a definite distribution and following every pressure made upon the posterior segment of the cord. The author argues that the case proves that whether the temperature-sense tract be identical with, or regionally related to, or even remote from the tactile transmission channels, it follows the same laws in regard to peripheral distribution for the same areas which are exquisitely involved in spinal system diseases, causing anæsthesias and paræsthesias. There is an homology in the distribution of the peripheral sensation tracts in the cord whose general laws cannot be formulated to cover all physiological contingencies.

**DISTURBANCE OF THE SENSE OF TASTE AFTER AMPUTATION OF THE TONGUE.**—Fred. Peterson (*New York Medical Record*, August 30th, 1890) made interesting experiments upon two patients whose tongues had been completely removed for epithelioma. The tests were made with great care, the patients not being permitted to know the nature of the substances used.

In Case I. bitterness was feebly perceived by the soft palate, strongly by the posterior wall of the pharynx; sweetness was not perceived at all except on the posterior wall of the pharynx; saltiness was not perceived at all by either palate or pharynx, but probably by the surface of the epiglottis; the galvanic current produced no sensation of taste whatever.

Case II. was examined so soon after the operation that much cannot be determined with reference to the amount of permanent disturbance of taste. Besides the loss of sensibility to acids, he did not recognize sweets.

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### NEUROSYPMTOMATOLOGY.

**ALBUMINURIA IN EPILEPSY.**—The *American Lancet*, in an editorial comment, says:

“In our own experience, albuminuria is exceedingly

rare in epilepsy, and from some hundreds of examinations of such urine in upwards of fifty cases, we have failed to find albumen a single time in uncomplicated epilepsy. Once albumen was found in large quantity, and the autopsy revealed advanced tubercular nephritis. The examinations were made with urine obtained before, during and after paroxysms, as well as in the interval between the attacks. These results would emphasize the assertion that albuminuria is very infrequent in such cases, and that renal disease is mainly responsible for its occurrence. Kidney disease should be suspected when albumen appears more than transiently in the urine.

"It must not be forgotten, that in doubtful cases, uræmic and epileptic convulsions may co-exist, and here, if a history of the case is wanting, one or the other condition may remain unsuspected, no differentiated point existing in the seizures themselves. This combination we believe to be a very rare one, but we have seen a case in which both factors—essential epilepsy and uræmic toxhæmia—undoubtedly each contributed a share in the product of the oft-repeated epileptic status. Fortunately such a complication is rare, and it would seem that epileptics as a class suffer very little comparatively from diseases of the kidney producing albuminuria.

"In conclusion we would again direct attention to this interesting question, and hope that those so fortunately placed as to observe large numbers of this unfortunate class, will contribute further statistics of the frequency of albuminuria in simple epilepsy without kidney disease."

[We have examined the urine of hundreds of epileptics and never found albumen persistently present in any uncomplicated case of epilepsy, and in not one-percent. have we seen even slight and transient traces of albumen in the urine of epileptics. In this disease the urine is singularly free of this sign of albuminuria.—ED.]

## NEURO-SURGERY.

STRETCHING THE NERVES IN SPASMODIC HEMIPLEGIA AND IN PARTIAL EPILEPSY.—In the *Semaine Médical*, for November 13th, 1889, M. Benedict announced that he had treated choreaform movements in subjects suffering from spasmodic hemiplegia by stretching the nerves of the

arm. The treatment was followed by complete cessation of the choreaform movements. M. Féré reasoned from this that the same treatment would be of benefit to epileptics suffering from the same sort of hemiplegia and even in cases of partial epilepsy without permanent paralysis. M. Féré's results, however, were not encouraging. M. Segond, surgeon to the Bicêtre, stretched the nerves for him in three cases.

The first case was that of a patient suffering from epileptic attacks, which began by first involving the face and then the arms on the right side. There was no special loss of power in the arm, only a slight spastic affection of the hand. The radial nerve was stretched by a weight of 2,500 grammes. The first spasms following the operation were less severe in character. But in a short time they came back with their usual intensity.

The second operation was upon a case of infantile hemiplegia of the left side, of twenty-five years' standing, attended with choreaform movements and frequent epileptic fits, with loss of consciousness. The median nerve was stretched by a traction of 5,500 grammes. No permanent benefit followed.

The third case was one of spasmodic infantile hemiplegia of the left side, with atrophy and contracture. The fits were sometimes confined to arm and face of the affected side, but were often general. The median nerve was stretched by a traction of 7,000 grammes. No result.—“*Proceedings of the Société de Biologie*,” May 9th, 1890.

T. D.

## EDITORIALS.

[All Unsigned Editorials are written by the Editor.]

### **Traumatic or Fright and Shock Neuropathies.**

—The extensive railroad travel, the frequency of railway accidents and the horror with which railway injury is viewed by the public, together with the magnifying of remote consequences of collision often gives rise to psycho-neuropathic conditions in victims of railway collision who otherwise escape unhurt. The consideration of this condition should receive the attention of railway surgeons, neurologists and courts.

A prominent factor in the gravest of these psycho-neuropathic conditions is the latent neuropathic tendency of the individual brought into activity by the psychical and physical shock to the nerve-centers—the fright, the exaggerated and morbid apprehensions of possible consequences and the physical concussion of the cerebrum and cord, as well as the direct violence done to the organism. In every case of railway-spine, so-called, the antecedent history of the patient is important, to shed light on the extent of injury. We should inquire to what extent a latent neuropathy may have been brought out by the accident and how much neurosis may have been developed *de novo* by the injury, the shock, or perhaps the added surgical procedure. There are psychical as well as concussional traumatismes of the nerve-centers; there are emotional as well as anatomical injuries; there are fright, fear and dread neuroses; there is the violence of morbid apprehension as well as of peripheral or central violence. In railway-shock diseases, there is food for reflection for the neurologist, the alienist and the surgeon, and the expert knowledge of the most experienced will often be requisite to reach the true causation of all the symptoms, and even then the combination of causes will sometimes complicate the problem of blame and confuse and confound physician, court and jury. A neuropath, a railway accident and damage suit often paralyze the judgment of the expert, who seeks only for the truth, the whole truth and nothing but the truth, for here, as in many other aspects of real life, things are not all what on their surface they may seem. The neuropathic sequelæ of railway accidents



are often out of proportion to the real and proven violence of the shock in certain individuals—for instance, of two people sleeping in the same berth while the train comes to a not violent stop, one will have no untoward symptoms, while the other will bring suit and apparently be a wrecked neurosthenic for years. In a case like this malingering is one explanation; psychical shock, morbid apprehension and latent neuropathy brought to light, the other.

A neuropathic constitution undoubtedly underlies all neural symptomatology which is plainly direct, out of proportion to the physical injury or concussion received and the inherent morbid nerve instability may not have been apparent in the individual before the injury or accident, but have been for the first time brought to light by it. The neurotic history of the family in such cases, the direct or atavic descent of the spasmodic or other neural diathesis that predisposes to nervous instability from slighter than average causes, is here to be taken into account. Dr. Casten, in the July 12th number of *Medicine Moderne*, in illustration of the fact that slight accident and disturbing emotions produce in neuropaths sequelæ of undue magnitude, adds a number of new cases to the old long list.

The *New York Medical Record*, April 19th, referring to Dr. Casten's cases and discussing the subject under a different caption and for a somewhat different purpose, thus further pertinently presents the subject of this article:

"Surgery, like other good things in and out of Medicine, has definite drawbacks. It is not an unmitigated good, for insignificant operations have been followed at times by disaster infinitely more deplorable than the original abnormality. Circumscribed injuries, even the delicate ones brought about by the surgeon's knife, may result in nervous complications of serious import. To cut or not to cut, is a graver question than has been supposed. While works on surgery, naturally the outcome of surgical minds, consider syncope, nervous delirium and neuralgia the only neurotic complications that may arise from the use of the knife or the presence of wounds, these otherwise valuable books leave something to be desired. There is a surgical side to modern hysteria which it is well to take into account, if painful surprises for the surgeon and his patient are to be avoided.

"Herbert Page, Erichsen, Weir Mitchell, Leudet, Lyden,

Trossier, Lombroso, Charcot and Paul Berbez, have cited numerous clinical examples of a similar nature, and given to hystero-traumatism a definite place in literature. Less well understood and appreciated are the nervous complications of contused wounds, sprains and the legitimate lesions of surgical origin that interfere with ordinary occupations but a week or two, and are, therefore, never thought of again except as trivial facts of the past. A woman, thirty-three years old, was knocked down by a milk wagon and dragged some twenty feet, receiving a slight contused wound about the left knee, and some bruises in the region of the left scapula and lower portion of the abdomen. There was no serious injury of any kind, yet within forty-eight hours epileptiform seizures set in at the rate of two a day for about a fortnight. At the expiration of two weeks all manifestations requiring surgical care disappeared. Ten weeks the patient remained in bed, subject to epileptiform attacks that increased in violence as they lessened in number, rotation of the arms and legs inward, and flexion of the joints of the upper extremities becoming their marked characteristics. A history of earlier causeless mental depression and senseless fits of anger were elicited. Areas of circumscribed anæsthesia were found.

“Another case of the same order. A girl of seventeen, was knocked down from behind, and run over lightly by a carriage she failed to see. Picked up in a generally confused and shaken up condition, her only discoverable injuries were various ecchymoses about the thigh and across the abdomen. Two hours after the accident distinct mental excitement made its appearance, clonic spasm of the limbs followed, incontinence of urine and feces, and loss of sensation in the right leg. A deep sleep, a sort of coma, set in and lasted for a week. From this somnolence the patient was roused four or five times daily by epileptiform convulsions. There were permanent multiple contractures, general anæsthesia, retention of urine and loss of the power of deglutition, food being violently ejected. An aura expressed itself as a sensation of cold in the left arm. The tongue was bitten, the thumb drawn between the index and the middle finger, and there was complete unconsciousness during these attacks. Symptoms began to abate in about ten days. The patient then talked a little and could put the feet out of bed. A month passed before she could sit up in bed, prevented

earlier by persistent pain in the lumbar region. Retention of urine and general anæsthesia kept up for weeks. After the girl had returned to ordinary health and the duties of life there was sudden spontaneous return of vesical paralysis and weakness in the lower limbs. This was doubtless a case of latent hysteria.

"Other illustrative examples are given. In one instance a sprain of the wrist resulted in suppression of menstruation, which was active at the time, and in hysterical manifestations lasting a week. In another instance palpitation of the heart and nocturnal distention of the abdomen appeared as the result of a fall.

"A little girl, of five, hit her forehead while at play, the spot bleeding slightly. From this untowardness were evolved insomnia, nightmare, anorexia and general nervousness.

"Another woman escaped being run over, neither horse nor carriage touching her. Fainting fits, attacks of fear and of tremor dated from this incident."

The *Record* is discussing traumatic neuropathies and while it proves its point, it also proves ours, with proofs that are common to neurological experience. The lesson it would deduce is likewise a good one, and here it is:

"The author cited looks upon these conditions as forms of hysterо-epilepsy. Tissot considers fear the most important cause of epilepsy. Many persons, hitherto exempt, fell victims to this disease during the dark days of the late Franco-Prussian war. The earthquake at Nice so shattered the nerves of many French visitors there at the time that any unusual strain later in their customary Parisian life served to render them speedily insane. Fear, accident and injury, together or separately, are destructive elements that ought to be more recognized and appreciated as factors in disease. Usually, in cases like the foregoing, hysterical stigmata will be present, as constriction of the visual field, hemianæsthesia, hysterogenic areas and loss of pharyngeal reflex. Prognosis should always be guarded. Though classed as ephemeral, the troublesome nervous symptoms may persist or return. Epilepsy, vertigo, chorea, hypochondria, loss of memory, general paralysis and mental alienation resulting from destructive emotion or sudden injury, may be permanent. Especially reserved should be medical opinion where circumscribed paralysis is followed by muscular atrophies that are not clearly defined."

The conclusion of the whole matter is that it is not safe to seek to dispense with neurology or the neurologist in the practice of modern surgery.

**Central Effects of Peripheral Impressions on the Lower Limbs.**—As far back as the year 1879, M. Onimus,—who had previously contributed so much from a physiological stand-point to enlighten neurology, read before the *Société de Médecine de Paris*, an interesting communication on the above subject, which has not yet received proper mental appreciation in our neurotherapy. We therefore take pleasure in reproducing the physiological points for neuro-clinicians. A fact that M. Onimus has verified on many occasions, and which demonstrates very satisfactorily the modifications produced in the cerebral circulation by peripheral excitations is the influence of the electrization of the sciatic nerve on sleep.

In a number of patients to whom he applied the continuous current to the thigh, he noticed that profound slumber followed the electrization.

Having, during several months, the care of a large number of patients suffering either from muscular atrophy of the lower limbs, functional loss of power or sciatica, he was struck with hearing nearly all mention the symptom of insomnia. By applying the electric current over the cervical ganglia we frequently obtain similar phenomena, but it is easier in some persons, to produce them by galvanizing the sciatic.

This certainly very curious fact ought, nevertheless, not to astonish us, as we are aware how, in physiological experiments, the electrization of the sciatic nerve influences the general circulation and arterial pressure. In rabbits the circulation and temperature of the ear is modified by excitation of the sciatic nerve.

Brown-Sequard's experimental section of the sciatic nerve to produce epilepsy in animals is a well-known fact. But whatever theory of sleep is adopted, it is certain that this physiological process has associated with it changes in the cerebral circulation. It is, therefore, nothing astonishing that the peripheral impressions that produce changes in this circulation should also have an influence upon sleep. I do not believe, continues this *savant* in a practical point of view, that we should draw the inference that to cause sleep we have only to galvanize the sciatic

nerve. It is none the less useful, however, to be aware that this effect is produced in even a few cases.

The primary fact of these observations is the importance of the influence of peripheral impressions on the circulation of the nervous centers, and especially that of those on the sciatic nerve or the lower limbs.

Besides the therapeutic value of the above observations of M. Onimus, the practical hygienic deduction is here made that children ought not to have the calves of their limbs exposed, and the custom of so dressing children is condemned. Chilling of the lower limbs certainly acts on the circulation of the cord. The vessels of the cord, and particularly those of the gray substance, which are the most numerous, are congested by reflex action, and thus cause the symptoms of paralysis.

Excitation and irritation of any peripheral nerves act on the nervous centers, and in certain pathological conditions of these centers the influence is greatly intensified, a simple electric current, the contact of a metal, a loud noise, a flashing light, a penetrating odor, suffices sometimes to bring on hysterical attacks, catalepsy, etc., but nothing, in the opinion of M. Onimus, exerts this influence so much as impressions on the inferior members.

The sciatic nerve, of all peripheral nerves, he thinks exerts the greatest influence on the nervous centers.

We obtain greater effects on arterial tension and on the diameter of the vessels of the brain and cord by using the sciatic than by employing any other peripheral nerve. Reciprocally proceeds M. Onimus, whenever affections of the nerve centers cause eccentric irradiations to the peripheral nerves, it is in the sciatic especially that these phenomena take place. Thus, not only in sclerotic disorders of the cord, in which pain in the sciatic might naturally be expected, but also in cases of cerebral lesions, the cord being uninvolved, pains occur in the thighs, formications are felt in the lower limbs and the plantar surface of the feet may become anæsthetic. To cite, finally, one of the most striking examples, we may mention the lancinating pains in the thighs in certain cases of cerebral tumor that have such an analogy with the fulgurant pains of locomotor ataxia that an error of diagnosis is even possible, is not this one of the most characteristic examples of the relation which exists between the activities, either normal or pathological, of the sciatic nerve and the nervous centers.



Practitioners who have employed hot water pediluvia for the relief of certain pathological cerebral states on the ground of the heat acting as a derivative, and secondarily a revulsion, may find in the above physiological facts an additional and better reason for the very proper procedure under the stimulating influence of heat transmitted to vasomotor centers, the cerebral arterioles are contracted, and congestion is thus relieved.

**Perversions of the Sexual Feeling.**—The recent descent by the Paris police authorities upon a vapor-bath plant in Penthievre Street, wherein orgies were unearthed akin with those of the notorious Cleveland Street (London) den, was promptly followed by the trial and sentence, in the eleventh correctional tribunal of the Seine, of all but one of the nineteen participants arrested at the time of the raid. The judicial proceedings were held with closed doors, and even the enterprising Paris press was restrained, by respect for its readers, from full publication of the repugnant developments.

The correspondent in that city of the *Courrier des Etats-Unis* thus describes, under date of April 25th last, the physiognomic and personal characteristics of the inculpated persons, as they appeared before the court. His account is not destitute of interest to observers in the field of psychiatry.

The spectator is confronted with a striking confusion of nationalities and social conditions among the nineteen prisoners who are arraigned. There are English, Americans, Dutch, Swiss and French; there are domestics, jockeys and country tradesmen, who elbow so-called gentlemen of the world, whilst the respectability of the latter lacks nothing, on the score of external appearance.

The most remarkable physiognomy is that of an effeminate young Englishman, with budding mustache, rosy complexion, large languishing blue eyes and artificially curled hair, who ostentatiously displays a pair of girl-like hands and fingers all bedecked with rings. His name (for the identity of the prisoners did not escape the activity and vigilance of the French detectives) is John Patton Cooper, and his father, a baronet, is the possessor of millions. Cooper, it appears, was the prime favorite in the set. He wore on his neck a medallion, attached by a small gold chain, and may have used it among his eager



admirers, as the sultan, in the Oriental tales, employed his handkerchief in the harem.

At his side sits a fat haberdasher with puffed visage, from Senlis, department of Oise, named Brault, whom the friendship of the degraded young Briton, seems literally to daze.

Who next? An old Dutchman, with spectacles, his face almost concealed in his shirt collar; his name is Van der Wallen, and he is a ruin; he is diabetic and gouty, and fainted at the beginning of the hearing.

Then comes a handsome lad, with military mustache and marked Southern-France accent, named Lacour, who weeps over a fatality which he has vainly resisted all his short life, and despairs of ever conquering.

Here are two hotel keepers, Labalme and Garnier; the first stiff and correct, in the white whiskers of an esteemed father, and the other clean-shaved, with the full-blown, but deceptive face, of an angelic baby.

The one who protests his innocence with greatest energy, the young man of twenty-eight or thirty, with proud mien and decisive gesture and speech, the giant with moss-trooper mustache and dudish eyeglass, is Mons. de Beaurepaire—Bérion, an officer.

As if all professions must unfortunately be represented in this pell-mell of neurotics, here is a man of letters, Mons. Jacquinot, a very myopic young man, with glossy mustache, and soft melancholic air.

Who else? Rensing, a circus rider; Adolph Ratisbonne, a frightened and effaced little blonde, who breeds birds at his country home; an old money-lender, named Pouzot; then two butlers, one named Rudolphe Drebach, the other Schnatter; and then two Americans, self-conscious and solemn, each with the heavy classic mustache of an ex-officer of the war of the rebellion. They give the names of Albert Rudger and Thomas Macpherson, and are traveling for pleasure. The former arrived from Nice the day before the police razzia in Penthievre Street, and the latter came to Europe as tutor of a convalescent child. They both affirm their innocence, and say that they were accidentally scooped into the municipal drag-net.

Here too, is Clement, the principal manager of the haunt, who appears to have neglected nothing for the satisfaction of the guests, and who is charged with much more than being a simple spectator of the orgies. And there is the proprietor, Duprey, who alleges as a defense

the eccentricity of never having put foot inside his place of business, and that everything went on behind his back, without his connivance, or even his knowledge.

What impresses the beholder most is the mental attitude of the majority of the accused—their inertia and impassiveness,—the unconsciousness of, or indifference to, the heinousness of their alleged offences. Except Mons. de Beaurepaire-Bérion, who revolts with so much indignation, most of the others who are thus seriously involved, sit as though resigned to the obvious outcome of the trial, and like languid spectators of their own prosecution.

Even the ones who have confessed, do not seem to couple the confession with a realization of their abasement. They appear rather to labor under a temporary shock of astonishment that they were interrupted in their scandalous pursuits. What they have done appears to them to be extremely natural, and they ask why the police are so hostile to the liberty of citizens.

The first session of the trial was consumed in hearing the testimony of the detective agents, who contrived to introduce themselves into the establishment and mingle with the criminal coterie so successfully as to inform the commissary of police correctly of the time when he should make his descent in order to surprise the offenders *in flagranti*.

The foregoing Paris correspondence closes with the statement that the hearing would probably continue several days, and on May 5th, the cable enabled the editor of the *Courrier* to announce that the trial had ended in the conviction and condemnation to imprisonment of all the accused, including Duprey, the proprietor of the baths, with the exception of the American Macpherson, who was acquitted.

**Suspension in the Treatment of Nervous Diseases** has been studied by Rault (*Le Progrès Médicale*, Feb. 28, 1891), who contributes this critical review of the literature of this subject, in which results in 210 cases are given. Of these 162 were improved, and 48 unimproved. Notwithstanding the contradictory opinions that have been emitted by high authority the methods seem destined to win a place in the treatment of nervous diseases. It is probable that further observations will limit its application to cases more likely to be benefited; its too indiscriminate use may bring a really good method into disfavor.

**A Criminal Feigning Insanity, is Sentenced to Twenty Years' Hard Labor.**—The Court of Assizes, Department of Nord, France, having recently condemned to twenty years' hard labor a self-asserted lunatic, named Clovis Hellebois, a native of France, aged forty-three years, on accusation and conviction of breaking into and entering a church in Faremont and pillaging another in Santes-Dangles and of defrauding a hotel-keeper of Béthune, the following features of this apparently simulated case of insanity are communicated by the Paris correspondent of the *Courrier des Etats-Unis*, of June 13th, 1891 :

"Hellebois, when arrested at his home in Faremont in September last, soon after the alleged offenses, replied glibly to the questions of the magistrate and confessed to the church robbery of his village. But upon discovery of his connection with other subsequent violations of law, he suddenly became mute and successfully frustrated all future efforts to extract from him a word. Mutism was his débüt in an attempted rôle of insanity.

"In February last, when his case was called in the Assizes, his counsel procured its postponement to the following session, in order to give him the expected benefit of expert testimony. After three months' sojourn as patient in the Armentières Hospital for the Insane, Hellebois was reproduced in court.

"His attitude before the audience was at this time most bizarre. He would for a time fixedly regard the floor, then stare at the wall or other object in the court-room and while riveting persons with his gaze would at the same time appear not to notice them. Brilliant objects, especially the buttons of the gendarmes, appeared to exercise a specially magnetizing influence upon his attention. Suddenly he arose from his seat, extended his arms, squatted and balanced himself like a bear in a cage, then he practiced grotesque gymnastics with both arms and legs at once, all the while affecting to ignore the jury and other actors in the judicial scene, as if completely unconcerned in their proceedings. His haggard eyes, long beard and unkempt hair intensified the impression of his fantastic and diligently followed freaks. For months Hellebois had vigorously played this comical but absolutely mute rôle.

"Two interesting pieces of testimony were adduced, one by Dr. Taquet, Superintendent of the Armentières

Hospital for the Insane, and the other by Doctor Sockeel, physician to the Douai prison. Both had bestowed much observation and study upon their patient.

"Dr. Taquet passed in review every form of insanity applicable to Hellebois' symptoms and proceeded by process of elimination to find that he feigned them all and was absolutely responsible for his acts. He was but a clumsy simulator, an exaggerator who 'forced his note.'

"Such, likewise, was the conviction of Dr. Sockeel, who narrated the following significant incident in support of his diagnosis:

"Some time after the prisoner had lapsed into mutism Dr. Sockeel, accompanied by the guard, entered the cell occupied by Hellebois and asked whether the prisoner ate properly—whether he dropped his food either on his clothes or on the floor. The guard replied that he ate like any one else. Hellebois, who had heard the question and comprehended its point, promptly amended his rôle and at the next meal dropped his bread on the floor and spilled the soup down his shirt collar.

"The public prosecutor demanded a severe penalty for a simulator who had been convicted of previous important violations of law and had already served the State ten years for crime. Despite ingenious efforts of the counsel for the defense to justify as real the pretensions of his client to mental irresponsibility, the jury rendered a verdict of guilty without attenuating circumstances.

"Hellebois, without apparently hearing his sentence by the court to twenty years' hard labor and without relaxing or modifying his attitude, was reconducted to prison."

**Electro-Traumatic Neuropathies.**—Akin to the subject of concussion and fright neuropathies is that of those pathological states brought out by the new and extensive use of electricity in mechanics and for transportation, illumination, etc. Dr. F. Peterson wrote upon this subject in the *Medical Record* of November 2, 1889. But little has been added since, and as the article is worthy of consideration as serving to fix the attention of others to this subject, we here reproduce the *Analectic's* abstract of Dr. Peterson's interesting article:

The author does not believe any new or unknown disease has been introduced by the employment of dangerous electrical currents in various industries, for precisely the same disorders have been known to the profession as occurring from electricity in its natural form of lightning. Lightning produces shock of all degrees to the nervous system

As one-third of the people struck escape death, it is from disorders of the nervous system that these victims suffer, and these diseases are commonly functional in character. Among the most frequent neuroses, generally of a transient character, produced by lightning, are catalepsy, aphonia, deafness, blindness, tinnitus aurium, neuralgias, iridoplegia and various paralyses and anæsthesias. One instance was that of an intermittent brachial monoplegia recurring at every storm. He cites experiments with artificial lightning—discharges from Leyden jars—made upon lower animals by Richardson twenty years ago, and by Nothnagel nine years ago, in which varying degrees of anæsthesia and paralysis were produced, transitory in nature.

As to the pathology of electrothanasia, he had made autopsies upon a number of dogs at the Edison laboratory, after killing them with dynamo currents, and examined many tissues microscopically immediately after death and some later, after hardening in Müller's fluid. In all the blood was dark and thin. Electricity has been shown experimentally to rob the blood of its oxygen; a shock sent through a test-tube of blood will darken it, while shaking in a jar of oxygen restores the redness. The blood and all the visceral tissues seemed normal under high magnification. He had examined microscopically lung, muscle, nerves, spinal cord, brain, etc., but found no changes. In two dogs there were capillary ectasies in the sheaths of the large leg nerves through which the current had passed, and also in the spinal cord, with here and there extravasations of blood. The action of the current is probably both chemical and mechanical. Its mechanical force is expansive or explosive in its nature, thus accounting for the coarse lesions found often after death by lightning—perforation, amputation, etc. The following case was a good example of the sort of neurosis produced by the shock from a commercial current:

An Elevated Railroad employe, aged 25, hitherto a very strong and healthy man, on August 13, 1889, about 11 A. M. while at work picked up a wire on the Elevated Railroad, which was probably dead, but enlivened by his moving it and bringing it into circuit with some other. He had a buzzing in his head, and instant muscular rigidity, followed almost immediately by relaxation. He had evidently made a circuit by picking up the wire and a tetanic spasm had broken it again. He felt momentarily unhurt, then fell in a heap, and was conveyed to the hospital. In the ambulance he recovered consciousness, but was so drowsy at the hospital that they forcibly kept him awake. He was burned but very slightly. He was able to walk home unassisted at 6 P. M. the same day. For a week he had considerable muscular twitching, like chorea; suffered from insomnia, and when asleep would dream of touching the wire, getting a shock, and then suddenly waken. There is no sign now of any organic disease about him. He is unable to work, however. He has pain in moving his eyes, but his eyes are normal. He walks in a stooping position, and says he cannot straighten up because of pain in his back. His muscles twitch occasionally, according to his account, and he has a slight tremor, and the knee-jerks and wrist jerks are exaggerated. He is troubled with headache, and



his face has a somewhat anxious look. He evidently has sustained a profound shock to his nervous system, and his mind is much absorbed in the contemplation of his morbid condition and symptoms. His state is more than one of neurasthenia, and less than hypochondriasis. It evidently corresponds to the traumatic neuroses due to other kinds of shock, like railway-brain, railway-spine, etc.

He mentioned another case of a man in whom choreiform movements had developed after a severe shock from an electric light wire.

**Physical Sequence of Psychical Shock, and vice versa.**—That great mental strain and sudden psychical shock cause physical disease as certain as physical disease may cause psychopathic states, is a fact well attested in our records of insane hospitals; and the institutions for the feeble-minded give numerous examples of physical sequence of psychical shock, and *vice versa*. Grief, mental disappointment and distress, fear, fright and dread, likewise produce other physical diseases and occasionally cause death.

In this direction Dr. G. Bassi has recently made a number of observations on animals which apparently died in consequence of capture. Birds, moles, and a dog which had succumbed to conditions believed by Dr. Bassi to resemble those known amongst human beings as acute nostalgia and "a broken heart," were examined *post-mortem*. Generally there was hyperæmia, sometimes associated with capillary hemorrhages of the abdominal organs, more especially of the liver, also fatty and granular degeneration of their elements, and sometimes bile was found in the stomach, with or without a catarrhal condition. The clinical symptoms were at first those of excitement, especially in the birds, these being followed by depression and persistent anorexia. The theory suggested by Dr. Bassi is that the nervous disturbance interferes with the due nutrition of the tissues in such a way as to give rise to the formation of toxic substances—probably ptomaines—which then set up acute degeneration of the parenchymatous elements, similar to that which occurs in consequence of the action of certain poisonous substances, such as phosphorus, or to that met with in some infectious diseases. In support of this view, he points out that Schule has found parenchymatous degeneration in persons dead from acute delirium, and that Zenker found hemorrhages in the pancreas in persons who had died suddenly; he refers also to some well-known facts concerning negroes in a state of slavery, and to the occasional recurrence of



jaundice after fright. He hopes that these hints may induce medical officers of prisons, and others, to study both clinically and anatomically, this by no means uninteresting or unimportant subject.

The physical expressions of the emotions show us the intimate relation between the psychical and physical.

The tear of grief, the smile or laughter of a pleasing emotion, the blush of shame, the pallor, the shudder or tremors of fear, the involuntary shout, attitude and facial expression of anger or surprise, the visage of hope, the countenance of disappointment or despair; are physiological object-lessons from which by analogy and added observation, the clinician may make valuable medical deductions.

### **A Secretary of Public Health in the Cabinet.—**

One of the best of the recommendations of the closing Session of the last May meeting of the American Medical Association was the recommendation of governmental provision for a Secretary of Public Health to constitute a part of the President's Cabinet. The distinguished Dr. C. G. Comegys, of Cincinnati, the accomplished physician and veteran scientist of the Ohio Valley, is the author of this important resolution, and he was accordingly made chairman of the memorializing committee.

This is a wise and timely move. It is difficult to conceive how Congress can fail to recognize this debt to the Medical profession of the country and such obligation to the country's sanitary interests as the resolution implies. The health of the people—physical and psychical is of no less importance, certainly, than their financial welfare, the latter being as largely dependent as the morals of the people are, upon the public health.

Public sanitation should go hand-in-hand with finances and statesmanship in the Cabinet, indeed the department of public health should be made the peer of any in the Cabinet. A wise sanitation is the best security for good morals, broad statesmanship and secure financial management in time of peace, to say nothing of the paramount importance of the Health Department in time of war. This subject has been already too long delayed and we hope our colleagues of the Medical press will keep the matter before the people until justice shall have been done in the premises.

The committee are as follows:—Drs. C. G. Comegys,

Ohio, Chairman; J. F. Hubbard, Indiana; N. S. Davis, Illinois; J. C. Culbertson, Ohio; Dr. Richardson, Louisiana; W. B. Atkinson, Pennsylvania; C. H. Lindsley, Connecticut; C. H. Hughes, Missouri; W. T. Briggs, Tennessee; H. D. Didama, New York; Thomas B. Evans, Maryland; A. J. Stone, Minnesota; J. P. Logan, Georgia; W. W. Kerr, California; Charles Dennison, Colorado; W. L. Schenck, Kansas; P. O. Hooper, Arkansas; H. J. Swearingen, Texas; Wirt Johnson, Mississippi; T. F. Wood, North Carolina; J. N. McCormick, Kentucky; J. T. Reeve, Wisconsin; H. O. Walker, Michigan.

**Asthma a Neurosis.**—In an editorial on the subject the *New York Medical Record* calls attention to the observations collected by Professor Brissaud in the *Revue de Medicine* for December, 1890, showing what has been often demonstrated before that a large portion, if not all, victims of essential asthma are neurotic, and that a nervous irritability is at the base of their trouble. The facts of heredity, the history of alternations of asthma with other neuroses, such as hysteria, neuralgia, insanity, etc., are brought in to support Brissaud's views.

There is nothing particularly novel in this, as the *Record* justly remarks, but over-much force has often been placed upon diathetic and reflex influences, and the neurotic theory is probably nearer the true one for the majority of cases.

The rational cure of asthma must be based on attempts to relieve the neuropathic taint. For the palliation of the symptoms, however, and the lessening of attacks, we must still rely in most cases upon climate, diathetic remedies, and in some instances upon treatment of nasal or other local disorders. This is sound doctrine and we take this opportunity to give it emphatic indorsement. Asthma can only be successfully managed by treating it as a neuroses, and its victim as a neuropath. All the agencies which even temporarily impress it favorably are neurotic remedies, not excepting the vaunted local remedial procedure of rhinology, for they remove local sources of nervous irritation in an organism morbidly impressible, from periphery to center, by reason of an organic aptitude which makes diseases like asthma possible.

**Urging Changes *ad Infinitum*.**—There exist in some, and perhaps all the States of the Union, certain

individuals who make it their business to annoy the authorities of the State hospitals for the insane by continually urging changes here, alterations there, investigations *ad infinitum*, and often bringing accusations against the hospitals which are nothing more or less than libels.

In nearly every instance these individuals are absolutely ignorant of everything pertaining to these hospitals and urge their views and accusations purely from personal spite, on false grounds, or they are the outcome of fixed delusions resulting from continually pondering how they can worry and harass somebody. New York has had a taste of such a personage and his repeated attacks on a certain hospital brought down the condemnation of his county medical society on his misguided head. Would that such a fate might be meted out to those of the same class in other States.

G. R. T.

**Seasonable Remedies.**—Among seasonable remedies, which are supplied by Parke, Davis & Co., are the following:—Chloranodyne, which is an excellent antispasmodic and anodyne in diarrheal disorders, gastric troubles and intestinal colic. It combines the therapeutic virtues of morphine, cannabis indica, chloroform, capsicum, hydrocyanic acid, alcohol, glycerin, and oil of peppermint. It is an improvement upon chlorodyne, a patented preparation, widely dispensed as an anodyne and antispasmodic. Liquid acid phosphate, the action of which is to relieve symptoms of nervous exhaustion, depression, sleeplessness, melancholia, and increase the vitality. This action is so well recognized that the acid phosphate is in considerable demand as a stimulating beverage. The ordinary dose of the liquid acid phosphate is one-half to one fluid drachm, in a glass of water, sweetened or not, according to taste. With carbonic acid water and any suitable syrup, it forms a refreshing and agreeable beverage. Lime juice and pepsin is a grateful refrigerant and antiscorbutic. It is a prophylactic against many disorders prevalent in the summer months.

**The Recent Electrocution** of four condemned murderers, under the New York law, took place at Sing Sing, July 7th. The executions were satisfactory and preferable because of painlessness, rapidity, certainty and absence of revolting contortions, etc., over the other methods. Fifteen hundred volts and twenty seconds'

time extinguished life. The shock was sent from head to feet and was once repeated after a short time, to avoid possibility of revivification. The report of *post-mortem* appearances has not yet come before us. With this experience it looks as though the electrocution of criminals would prove to be the preferable method.

### **The American Society of Microscopists.—**

The fourteenth annual meeting of this association will be held in Washington, D. C., August 10, and continue in session five days. Its active membership is about three hundred and fifty, embracing very nearly every prominent microscopist in the United States. Its membership consists of professional men and students of the natural sciences, who use the microscope in their daily avocations as an instrument of research, diagnosis, or precision; and amateurs, or those who find pleasure and profit in the revelations of the instrument. Many of the latter class, from having early chosen special lines of study and investigation, have acquired high reputations in their respective departments of microscopical research. In its earlier years this class predominated in the membership of the society, but at present the professional element is largely in excess. In the "Working Sessions" of this society experts in every department of microscopical technology give manual demonstrations of the details of their lines of work; in the informal evening "conversaciones" the room of every worker who has anything special to exhibit or demonstrate, is open for the reception of all those who wish to witness the demonstration; the *soirée* affords an opportunity of displaying for the benefit of the members, as well as the public generally, all that is most beautiful, interesting and instructive in the cabinets or laboratories of the exhibitors. Of late years the *soirées* have been attended by many thousands of visitors in every city in which the society has met, and have been regarded not only as distinguished social but also scientific events as well.

Further information concerning the society or the approaching meeting may be obtained of Frank L. James, President, Box 568, St. Louis.

W. H. Seaman, Secretary, No. 1424 Eleventh St., Washington, D. C.

C. C. Mellor, Treasurer, No. 77 Fifth Ave., Pittsburgh, Pa.

**The Mississippi Valley Medical Association** will hold its seventeenth annual session at St. Louis, Wednesday, Thursday and Friday, October 14, 15 and 16, 1891. A large attendance, a valuable programme and a good time are expected. The members of the medical profession are respectfully invited to attend.

C. H. Hughes, M. D., President, 500 N. Jefferson Avenue, St. Louis.

E. S. McKee, M. D., Secretary, 57 West Seventh Street, Cincinnati.

I. N. Love, M. D., Chairman Committee of Arrangements, 301 N. Grand Avenue, St. Louis.

**American Neurological Society.**—The following officers were elected for the ensuing year:—President, Dr. Wharton Sinkler, of Philadelphia; vice-presidents, Dr. C. L. Dana, of New York, and Dr. S. G. Webber, of Boston; secretary and treasurer, Dr. Græme M. Hammond, of New York; councilors, Dr. J. A. Walton, of Boston, and Dr. L. C. Gray, of New York.

**Dr. Walter Wyman—Dr. J. B. Hamilton.**—Dr. J. B. Hamilton, Supervising Surgeon-General of the United States Marine Hospital Service, has resigned, to accept the professorship of Principles of Surgery in Rush Medical College. Two good men have thus been promoted to higher places of usefulness. We congratulate the Government, Rush Medical College and our friends, the two distinguished gentlemen named above. Like the happy marriage between Annie and Bennie—both will be *anti-mated* and *bene-fitted* by the change—live men and good fellows as both of them are.

**Hammond's Sanitarium and Homewood Retreat,** the former at Washington, D. C. and the latter at Guelph, Ontario, Canada, have recently received a visit from the editor, who acknowledges with much pleasure the cordial hospitalities and most favorable impressions of these representative American and Canadian Sanitaria.

It will be our purpose to acquaint ourself from time to time, personally, with the appointments and *personnel* of the different American institutions where nervous diseases are treated, in order that we may intelligently advise our own clientele as to which physician and which locality may be best adapted to particular cases. The demands of all cases of nervous disease are not the same,



especially as regards environment, and this the consulting neurologist must take account of in his advice in order to best promote the welfare of his neurological patrons. This we propose to do.

**The Mississippi Valley Medical Association,** which meets at St. Louis October 14th, 15th and 16th, promises, from present appearances and assurances from its many friends in the valley of the Mississippi, to be one of the most successful of its many successful meetings. Its annual attendance is next in point of numbers to that of the American Medical Association and the quality of its membership is fully equal in point of ability, zeal and professional acquirements to that of any general medical body in the United States.

The indefatigable chairman of the Committee of Arrangements has already partly completed a programme, which, when finished, will be sufficiently attractive to make all who possibly can eager to attend the coming meeting. The scientific and social features will be all that can reasonably be desired.

Distinguished men in sympathy with this live and earnest association of medical workers will be present and the best professional talent of the great West and South will commingle at the coming convocation of the physicians of the great valley. Remember the time—October 14th, 15th and 16th.

**Journal of the American Medical Association.**

—Dr. J. C. Culbertson, for many years the accomplished editor of the *Lancet and Clinic*, has been elected editor of the *Journal of the American Medical Association*. We congratulate the new editor and the Association. His experience and success in the past and his well-known present qualifications for the work he has been solicited to do, give assurance of a still more successful career for the journal of the Association as it grows older.



## HOSPITAL NOTES.

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COMMITTEE OF LUNACY OF PENNSYLVANIA—(Eighth annual report). There are in the State at the date of the issue of this report, 5,171 insane people, which are cared for in the five State hospitals. This number is greatly in excess of the estimated capacity of these institutions. The committee has successfully frustrated every well-directed attempt on the part of the authorities of these hospitals to increase their capacity, and have urged and "lobbied" through the Legislature a bill providing for the erection of an asylum for the chronic insane to accommodate 2,000 patients, on the grounds that a separation of the acute and chronic cases will materially increase the recovery rate; that the cost of maintenance can be lessened, as the new asylum will, in a measure, be self-supporting. These arguments, to a person familiar with the subject, are both ridiculous and without reason. According to the figures of their own report, after 2,000 have been removed from the State hospitals there will still remain in these institutions nearly 3,000 so-called chronic cases, and from this it is easily seen that the proposed separation will be a failure. In regard to the second reason, the removal of these 2,000 patients from the State hospitals will certainly increase the *per capita* cost of these institutions, and in spite of the proposed decrease in maintenance, this increase will fully equal the difference.

The committee have instanced the State of New York, as an example of the working of chronic asylums. Right here they have displayed their deplorable ignorance of the condition of affairs in that State. It was but recently that the word "chronic" was dropped from the names of the Binghampton and Willard Hospitals; the State redistricted, and all hospitals placed on an equal basis to care for the insane of their districts whether acute or chronic. Let me quote, for the benefit of the Pennsylvania Committee (?) from the last report of the State Commission on Lunacy, of New York, for 1890: "Even with the degree of comfort and care bestowed by the Binghampton and Willard Hospitals, *formerly* operated expressly for the care and treatment of the chronic

insane, but happily now treating all with reference to their curability, instances were frequent of insane patients who were about to be transferred there, afflicting themselves and their friends by yielding to the most frantic lamentations, solely because of the belief that from that time on they were to be given over to the unchecked ravages of their disease." The New York report further states, that but one other State in the Union has fallen into the error of building chronic asylums, and yet up start this committee of lunacy and act as if they had hit upon a new and brilliant idea.

The late Dr. John P. Gray says, that these chronic asylums should have over their gateway Dante's inscription on the portals of hell, "All hope abandon, ye who enter here." The committee had better get their sign painted without delay.

The statement made by the secretary, that there will be no further need of provision for the insane in Pennsylvania for twenty-five years, is as foolish as it is misleading. In twenty-five years at the present rate of increase, there will be in the State just twice the insane population of to-day, and this will fill up to overflowing the hospitals long before the twenty-five years have passed. One point more. Who is to decide between the acute and chronic? It is a grave responsibility, but we presume the committee is equal to it. The whole plan of the chronic asylum is a piece of miserable nonsense.

Another peculiar feature of the report is as follows: The "Committee" relates with great pride the horrors they have unearthed in the care of the insane in the almshouses, and in the same breath they say there are some insane in the hospitals "who might be transferred to the county almshouses." This is truly consistent. County care; a system vetoed by all States and authorities who know anything, and yet the "Committee" advise it.

In regard to the criminal insane, the most strenuous efforts were made to compel the State to purchase an old reform school in the city of Philadelphia, to serve as an asylum for this class, but fortunately the State declined to be "bull-dozed."

There are the usual dissertations on congregate dining-halls, amusements, mechanical restraint, etc., etc., but no new suggestions are made. The never-to-be-forgotten female assistant is painted in glowing colors and the

good she *might* accomplish among the insane of her sex. We would respectfully call the attention of the "Committee" to an article in the Philadelphia Press, of March 31st, on this subject.

STATE HOSPITAL FOR THE INSANE, NORRISTOWN, PA.—(Eleventh annual report). Number of patients in the hospital September 30th, 1890: Males, 962; females, 949. Total 1,911.

This hospital, like other institutions of Pennsylvania, is very much crowded and is waiting patiently for an obstinate commission of lunacy, and procrastinating Legislature to relieve it. Infirmary wards have been put into operation for the exclusive use of that class of the sick which rank between the aggressive and violent and the feeble and quiet. Dr. Chase says, "into this ward go the garrulous and demonstrative old men; patients in the excited stage of general paresis, etc., etc. Five hundred of each sex take their meals in "congregate dining-halls." The privilege of going to the refectories is used as an incentive or reward of merit for good behavior in the cases of refractory patients. The "inspectories" are in use in the male department, and whatever criticisms have been made it must be conceded they are ingenious contrivances, and are said to accomplish the purposes for which they were designed.

The report states that another experiment is soon to be tried, viz; the use of rhythmic sounds in the treatment of excitement and insomnia incident to the various forms of insanity. The results of these experiments should be looked for with interest.

An interesting feature of the report are the pathological and ophthalmological sections. In the examinations of the brains of eight epileptics, the following points were for the most part common to all. First—Marked osteal sclerosis. Second—Marked adhesions of the dura to the calvarium, especially along the line of the sagittal suture. Third—In six cases a thin extravasation of blood in the subdural space, covering the whole hemisphere, and in two cases it extended over both hemispheres. Fourth—In the same six cases the subpial space was greatly distended with serum, giving an opaque appearance to the surface of the brain. Fifth—"In all cases the meningeal sinuses were filled with well-formed clots, and the smaller vessels were engorged." "A study of the general

morphology of these brains revealed a number of confluent fissures," especially marked in the occipital and parietal regions. The weights of the eight brains varied from 33.5 to 60 ozs.

A microscopical examination of one showed large multipolar cells in the motor region of the right side. There was considerable malnutrition and atrophic alteration in the nerve cells and great distention of the minute blood-vessels.

Microscopic investigations relative to chronic internal pachymeningitis, chronic hemorrhagic pachymeningitis, hæmatoma of the dura, arachnoid cyst, etc., etc., have been made with the result that the appearances indicate the escape of blood into fibrous tissues. This is contrary to the view expressed by German writers, viz., that there is a preliminary fibrous exudate. What may be the cause of the hemorrhage is unknown, but it is thought that as there is a close analogy between a hæmatoma of the ear and of the dura, and as the latter is considered neuro-paralytic the former might be the same, and also neuro-angioparalytic in nature.

The ophthalmological report gives the results of investigations into the motor and sensory disturbances of the ocular apparatus incident to the third stage of general paresis. Thirty-three observations are made, from which the following conclusions are drawn: First—A semia-trophic condition of the optic nerve-head and a marked reduction in the amount of both optic nerve and retinal circulations, with consequent lowering of centric and excentric vision for both color and form, all indicate a degenerate condition of the sensory portion of the ocular apparatus, with impairment of sensory nerve action. Second—The more pronounced local changes in the choroid and retina, which though similar to those in the second stage indicate a greater wear and tear on the weakened organ. Fourth—Both the motor symptoms and sensory changes of the ocular apparatus in the third stage of g. p. are one of the many peripheral expressions of fast approaching degeneration and dissolution of nerve elements, most probably connected with related cortex disintegration and death.

The writer takes this opportunity to express his obligations to the officers of the hospital for their hospitality during a day's visit at the institution.

NORTH CAROLINA INSANE ASYLUM, RALEIGH—(Biennial

report). Population November 30th, 1890: Males, 145; females, 149. Total, 294.

The asylum is in need of more accommodations, especially for the sick and incurables. Over forty cases have been refused admission on account of the crowded wards. Dr. Wood suggests that the additional room be made on the cottage plan, and also that separate provision be made for the criminal insane. Promiscuous visiting by the "miserabile vulgus" is denounced in the superintendent's report.

EASTERN (N. C). INSANE ASYLUM, WILMINGTON—Population November 30th, 1890: Males, 101; females, 145. Total, 244.

At a meeting of the various superintendents and managers of the North Carolina Asylums, it was voted that a committee be appointed to go before the Legislature and ask that provision be made for inebriates and criminal insane, in order that these may not prevent the admissions of the acute cases to the hospitals, and also that increased accommodations for the indigent insane of the State be made.

ALABAMA INSANE HOSPITAL, TUSCALOOSA—(Biennial report). Number of patients in the hospital September 30th, 1890: Males, 512; females, 542. Total, 1,054.

The indiscriminate mingling of the insane and weak-minded is spoken of in the report and though it is maintained that the latter class should be cared for by the State, the removal of them from State hospitals to institutions especially constructed for them is advised. The superintendent also recommends the erection of a building for private patients.

No change in the treatment of patients is noted. Occupation and amusements enter largely into this. No mechanical restraint has been used for ten years. The staff consists of Dr. P. Boyce, superintendent, and three assistant physicians.

EASTERN MICHIGAN ASYLUM, PONTIAC—(Biennial report). Number of patients in hospital June 30th, 1890: Males, 518; females, 472. Total, 990.

Several changes have occurred in the medical staff. Dr. Hurd, for eleven years superintendent, resigned to accept the position of director in the Johns Hopkins



Hospital, in Baltimore. Dr. C. B. Burr, assistant superintendent, was chosen to fill the vacancy. Dr. E. A. Christian was promoted to assistant superintendent, and the vacancies thus occasioned have been filled by the appointments of Drs. W. C. Pepper and D. B. Taylor. Among the interesting cases cited are the following:

First—Endothelioma of the dura mater with perforation and extensive destruction of the frontal bone; operation attempted, but for various reasons extirpation was not thought advisable. *Post-mortem* examination showed a jagged opening in the frontal bone with extensive disease of some of the smaller facial bones; atrophy of frontal convolutions. The interesting point in this case was absence of symptoms indicating the existence of tumor.

Second—"The following case is noteworthy, as showing the extent to which changes in the tissues of a fibrinous nature may advance, and on account of the variety of abnormal appearances presented *post-mortem*." Male, aged 70—Intemperate, delusions of personal importance, remnants of left hemiplegia, gradual weakening of the mind since admission, with hallucinations of sight and hearing. Autopsy—Dura adherent to cranium, increase of spinal fluid, hypertrophy of arachnoid, atheroma of blood-vessels, atrophy of olfactory bulbs, convolutions of gray matter normal, white matter pigmented, cord small. There was found by the pathologist sclerosis of the crossed pyramidal tracts and of a small portion of the periphery of the anterior root zones. Entire cord showed colloid degeneration.

Third—A case of myxœdema.

Fourth—A case of nuclear ophthalmoplegia.

Under the head of Therapeutics, the report gives the results of the use of antifebrin alone or in combination with the bromide of sodium to allay the restlessness of maniacal excitement. It has been found useful in those cases where high arterial tension, flushed face, hot skin, etc., together with great motor restlessness, and also in cases of recurrent mania.

Sulfonal has been used with good results in the insomnia of melancholia agitata, where the vital powers are feeble and the delusions are such as to produce great anxiety and distress.

Dr. Burr speaks of the rapid increase of paretic dementia. The report contains some good pictures of the hospital buildings and grounds.

OREGON STATE INSANE ASYLUM, SALEM—(Fourth biennial report). Population November 30th, 1890: Males, 444; females, 184. Total, 628.

The proportion of foreign-born amounts to over 40 per cent. Complaints that the asylum is overcrowded, and requests for additional accommodation are made, from which it is fair to conclude, that the institutions in the West are subjected to the same trials and embarrassments as those in the East

Dr. Lane advises the formation of a Board of Charities, which, he says, "if composed of intelligent and well-meaning persons, free from cranky hobbies, would be a valuable means of protection to the interests of humanity and the good name of the State."

This is a good suggestion "*if*" it is possible for Oregon to procure such a board free from "cranks," and if it does accomplish this, it certainly will be a "unique case." These boards and commissions in a number of our States have proved to be nothing more or less than stumbling-blocks and obstacles to anything practical and of benefit to the insane under their charge. We advise Oregon to let well enough alone, and not to criticise Dr. Lane. We are sure he will find a broader and more successful field without boards or commissions to aid (?) him.

The medical staff is made up of Dr. Harry Lane, superintendent, and Drs. Williamson and Irvine, assistant physicians.

ASYLUM FOR THE INSANE, DAYTON, OHIO—(Thirty-sixth annual report). Number of patients in asylum November 15th, 1890: Males, 304; females, 314. Total, 618.

The medical staff has undergone a revolution. Dr. C. W. King, a former superintendent, has been re-appointed in the place of Dr. Pollock. Drs. Hahue and Simms were appointed assistant physicians in the places of Drs. Parks and Long.

The superintendent's report is brief and pertains especially to the needs of the institution.

STATE HOSPITAL, UTICA, N. Y.—(Forty-eighth annual report). Population of hospital September 30th, 1890: Males, 369; females, 381. Total, 750.

Under the new law of "State care for the insane" recently passed in New York, the hospital has been taxed

far beyond its capacity, no less than 507 new cases having been admitted during the year. So great was the crowding that it was found necessary to use the chapel as a dormitory.

Various occupations, such as mat, broom, brush and shoe-making are provided for the patients, and of late the clothes for the male patients have been manufactured in the building.

Lectures have been given to the attendants during the winter months on the care of the insane.

There have been several changes in the medical staff. Dr. Pilgrim has been appointed superintendent of the Willard State Hospital, and Drs. Wagner, Mabon and Atwood, have been promoted to the position of first, second and third assistants respectively, the vacancy of fourth assistant having been filled by the appointment of Dr. R. R. Daly.

NEW HAMPSHIRE ASYLUM FOR THE INSANE, CONCORD—Number of patients in hospital October 1st, 1890: Males, 174; females, 190. Total, 364.

New Hampshire is moving in the right direction, viz., State care for indigent insane. There is need for another hospital, and the report advises the detached building plan, following as far as practicable the plan of a general hospital.

The Bancroft building, a picturesque and homelike structure, connected with this hospital, has proved of great benefit to that class of the insane which is quiet and orderly but still needs some slight restraint and careful medical supervision. The first class in the "training school" completed its course in the spring.

The medical staff consists of Dr. C. P. Bancroft, superintendent, and Drs. French and Nason, assistant physicians.

RETREAT FOR THE INSANE, HARTFORD, CONN.—(Sixty-seventh annual report). Number in the hospital at the end of the year: Males, 75; females, 70. Total, 145.

The superintendent discusses the question of the comparative merits of large and small hospitals for the insane.

The arguments urged in favor of the latter are, that a more systematic classification of cases can be made; the individuality of the different patients is not lost; the

course of treatment, both moral and medical, can be carried out more fully and satisfactorily; the superintendent can become better acquainted with his patients, and finally a smaller number of attendants can be kept under better control.

The only argument made in favor of the large hospitals is that the cost of maintenance is less, but as there would be but a slight difference, Dr. Stearns thinks the weight of evidence is in favor of small hospitals.

County care, and "boarding-out," patients, is considered a failure, as cruelties and indignities are heaped upon these unfortunates, which "if committed in an asylum would arouse the land."

Dr. F. H. Mayberry, for two years first assistant, and Dr. R. C. White, second assistant, have resigned. Their places have been filled respectively by the appointment of Dr. E. A. Down, formerly assistant physician at the Middletown (Ct.) Hospital, and Dr. Geo. S. Bidwell. Dr. Stearns, in closing his report gives a short obituary notice of Dr. John S. Butler, formerly superintendent of the "Retreat."

WESTERN HOSPITAL FOR THE INSANE, BOLIVAR, TENN.—(First biennial report). Population of the hospital December 19th, 1890: Males, 119; females, 230. Total, 349.

This institution was opened for the reception of patients November 22nd, 1889.

Dr. J. B. Jones was appointed superintendent of construction and afterward medical superintendent. The Doctor only held this position a year, his death occurring November 15th, 1890. A fitting tribute is paid him for his devotion to his work and efforts in behalf of the insane of Tennessee, by his successor Dr. J. P. Douglass.

The building is constructed on the "receding front" plan and is three stories and an attic in height.

STATE LUNATIC ASYLUM, LITTLE ROCK, ARK.—(Seventh and eighth annual reports). Population of hospital December 1st, 1890: Males, 204; females, 206. Total, 410.

It is a noticeable feature that of 183 admissions in two years only three were cases of parietic dementia, an extremely small number. The trustees complain of the crowded condition of the asylum, and claim that idiots

should not be admitted, and justly so, as these institutions are not homes, but are erected with the purpose of curing insanity. The staff consists of Dr. P. O. Hooper, superintendent and Drs. W. L. Worcester and J. L. Blakemore, assistant physicians.

BOSTON LUNATIC HOSPITAL—(Fifty-second annual report). Population of the hospital December 31st, 1890: Males, 186; females, 213. Total, 399.

A new building has been erected at "Austin Farm," to accommodate twenty five male patients.

Dr. Fisher says that great improvement is often noticed in patients after a change from the hospital proper to the farm has been made, when there are much better opportunities for them to indulge in out-door exercise and employment. All the work at the "Farm" is done by patients, which is under the charge of Dr. Edward Lane. The medical staff of the hospital is as follows: Dr. Fisher, superintendent, and Drs. Lane, Dewey and Bolton, assistant physicians.

STATE HOSPITAL FOR THE INSANE, MORRISTOWN, N. J. —(Fifteenth annual report). Population of hospital October 31st, 1890: Males, 450; females, 436. Total, 886.

The general health of the hospital, with the exception of the inevitable "*grippe*," has been good. Thirty-six autopsies have been made during the year, five of the most interesting of which are given in the report. Four are cases of acute delirious mania and one of epilepsy. In regard to the findings in the four cases of mania, I take the liberty of quoting from the report: "These four cases illustrate the marked vascular derangement found in such cases, a distinct tendency for the brains of a lower morphological structure, and also they presented distinct changes in the neuroglia and nerve cells. The degree of the latter changes seems largely dependent on the duration of the disease, as we should naturally expect, when the condition of the vascular and lymphatic systems are considered." In the case of epilepsy, the seizures began on the left side in childhood and gradually increasing in severity extended over the entire body. Death occurred from exhaustion due to the seizures. The autopsy revealed numerous calcareous growths (sixteen in all), of varying sizes, situated in the right hemisphere and involving a large number of the



motor and sensory centers, and in many instances destroying the brain tissues for some distance about them. The occipital lobe of the left hemisphere contained a large bony tumor. An examination of the tumors showed them "to be composed of poorly organized connective tissue originally rich in blood-vessels." Sections made from immediately around the tumors "where softening had occurred" showed "broken-down nervous tissue, leucocytes, blood pigment, compound granule cells and granular fat. There was immediately around the tumors a zone of sclerotic brain tissue in which remained but few nerve elements."

Dr. C. M. Hay has charge of the pathological laboratory. The only criticism to be made is a regret that this section is not made a separate report. It is deserving of it.

Considerable experimentation with paraldehyde and sulfonal with respect to their worth and indication for use. The conclusions were, that paraldehyde, when a continuous action was desired, is the safer hypnotic; that its range of application is wider; that when pain, dyspnoea or fever exist paraldehyde is more effective; that sulfonal is contra-indicated in acute melancholia; that sulfonal should be used in g. p. with care; that sulfonal sometimes interferes with the bodily secretions.

The staff is composed of Dr. H. C. Harris, superintendent, and Drs. Spratling, Gorton, Mial and Hay, assistant physicians. Dr. Pfoutz, formerly pathologist, has resigned.

NEW YORK STATE COMMISSION IN LUNACY—(Second annual report, 1890). New York has got the right idea: appoint men on such a commission who understand their business; pay them enough to make it an object for them to attend to it, and the State in the end will profit by it.

The report shows the conscientious and practical work that is being done by this commission in behalf of the insane of that State. No wild ideas are advanced or air-castles built which would fall before the slightest criticisms, but good, substantial suggestions are made which cannot fail to meet the approval of those engaged in the care of the insane. Two points the commission are urging and rapidly accomplishing, are the removal of the indigent insane from the alms-houses, and secondly, a sufficient number of State hospitals to accommodate

them without crowding. The report advises that a uniform system of book-keeping and internal government be adopted in the State hospitals, in order that the financial and medical affairs may be more easily compared; that there should be a uniformity of salaries and that the dietary should be the same. The State has been re-districted; the chronic asylum system given up as a failure and all the hospitals placed on an equal basis. An appropriation of about \$460,000 is recommended to increase the capacity of the present State hospitals. In regard to the Criminal Asylum at Auburn, and the Monroe County Asylum at Rochester, it is thought best as soon as practicable, to utilize them for State hospitals; and it is also recommended that an asylum be established for idiots.

To establish a "State Pathological Laboratory" for the benefit of the hospitals is another suggestion of the commission, and though the idea of advancing pathological investigation is a commendable one, it seems as if this plan would involve a great deal of trouble, and the expense in forwarding specimens would be considerable beside the danger of loss or injury. A pathological laboratory connected with each hospital would arouse a certain amount of rivalry and in the end would undoubtedly be of as much value as the plan suggested by the commission. It is thought best that the certificates of admission to an insane hospital be approved by a judge, and that the power to discharge a patient be vested in the medical superintendent without the permission of the board of trustees.

The Civil Service controls the appointments on the medical staffs of the hospitals.

A law has been passed requiring each hospital to have one female physician on the medical staff.

It is to be hoped that New York will gain *some* benefit from them, for in other States they have not been a brilliant success.

The report is a good one and New York is to be congratulated on having such a "level-headed" Commission in Lunacy.

MARYLAND STATE HOSPITAL FOR THE INSANE, CATONSVILLE—(Annual report). Number of patients in the hospital October 31st, 1890: Males, 242; females, 199. Total, 441.

This hospital is, like those in other States, filled to overflowing. The superintendent, in his report, advises the erection of detached buildings on the grounds: First—Economy of construction. Second—Greater facility for employment of inmates. Third—More domestic life and less restriction of inmates.

Since the publication of this report death has removed the superintendent, Dr. Richard Gundry. G. R. T.

MOUNT HOPE RETREAT—(Report for 1889). Number of patients at beginning of the year, 507; at the close of the year, 534; admitted during the year, 275; deaths, 48; cured, 126; improved, 73. Only one person was unimproved.

A number of improvements have been made during the year. A "Doctors' Cottage" has been erected adjacent to the buildings. It is described as being beautiful and made up after the "Queen Anne" fashion. Medical men in other asylums will doubtless envy the happy Mount Hope doctors.

NOVA SCOTIA HOSPITAL FOR THE INSANE—Report for 1889). Number of patients in hospital at beginning of the year, 395; at the close, 372; admitted during year, 76; number cured, 36; improved, 30; deaths, 31, (8 from phthisis).

A number of improvements have been made during the year. Dr. Ried reports that there is much overcrowding in the men's wards.

MISSOURI STATE LUNATIC ASYLUM, No. 2.—(Seventh biennial report). Number of patients at the beginning of the period, 397; average number,  $443\frac{1}{2}$ ; recoveries, 92; improved, 123; unimproved, 28; deaths, 50. There was one suicide and four accidental deaths during the year, three of the latter being of epileptics. Two epidemics, one of typhoid and another of erysipelas, visited the asylum during the year.

Dr. F. C. Hoyt has been in charge of the pathological laboratory since 1887. Autopsies were permitted in only one-half the cases of death which have occurred. There has been a systematic examination of the urine of all patients admitted. The sputum of cases of suspected phthisis is also examined in the laboratory. The work of the pathologist has been most commendable.

The staff of the hospital, at present, consists of Dr. R. E. Smith, superintendent, C. H. Wallace, C. F. Knight and F. C. Hoyt.

HARTFORD RETREAT FOR THE INSANE—(Report for year 1889). Number of patients at beginning of the year, 142; at close, 148; deaths, 14.

Dr. Sterns urges the importance of erecting two cottages, one for men, one for women.

Dr. F. N. Barker, who has resigned his position as assistant physician, has been succeeded by Dr. R. C. White.

CINCINNATI HOSPITAL—(Report for 1889). Number of patients admitted during the year, 3,654; deaths, 244; mortality in the medical wards, 12 per cent; surgical, 3 per cent; obstetrical, 1.4 per cent; gynecological, 7.5 per cent; children, 8.7 per cent.

The staff complain that the mortality is so high because there is so much delay in bringing patients to the hospital. A new amphitheater has been constructed during the year. The training school is in complete working order.

REPORT OF THE INSPECTOR-GENERAL OF HOSPITALS OF NEW SOUTH WALES FOR 1889.—Number of insane persons in six asylums, 2,974. The largest hospital contains 1,002, the smallest (criminal), 51; average, 495. The proportion of insane in the Colony is 1 to 377 or 2.65 per thousand.

The report shows that much activity is manifest in the Australian asylums. Among other things we notice the considerable attention that has been paid to training of nurses and the establishment of training schools.

TOLEDO ASYLUM FOR THE INSANE—(Sixth annual report, 1889.)

Number of patients at the beginning of the year, 868; at the close of the year, 1,097. Deaths, 77; recoveries, 121; not insane, 5.

Two hospital buildings have been completed during the summer. A number of improvements and additions have been made to the buildings and a great deal has been done in the way of grading and ornamenting the grounds.

Although the asylum does not possess an amusement hall, Dr. Tobey reports that much has been done in the way of entertaining patients.

Dr. Skinner, assistant physician, resigned his position during the year.

PENNSYLVANIA HOSPITAL—DEPARTMENT FOR THE INSANE—The report for the year ending, April, 1890: Patients at the beginning of the year, 393; remaining at the close of the year, 407; admitted during the year, 178; deaths, 27; recovered or improved, 94; stationary, 31.

Speaking of laws concerning the admission of patients, Dr. Chapin says: "The enactment of more stringent laws regulating the admission to hospitals has been followed usually by a delay in placing patients promptly under treatment during a curable stage. The necessity of conforming to certain requirements about a matter usually regarded in the nature of a private affliction, exercises an influence to defer any action which seems to carry with it a certain amount of publicity. A hesitation naturally exists in taking steps for the admission of a patient to a hospital, which, in the estimation of relatives, amount to a legal disqualification or incapacity that may operate in some way unfavorably or disastrously to personal interests, if recovery takes place. To them there seems an incongruity in resorting to legal measures as a preliminary step in order to place a patient under medical treatment. As the existence of this feeling is deep-seated and traditional, some allowance and concession must be made to it, much as we may sympathize and be in harmony with every effort that may be made to prevent the arbitrary exercise of power, or abuse, that might arise in the absence of any law."

Dr. Chapin makes a satisfactory review of the past, believing that much progress has been made. It is encouraging to those devoting time and labor to the scientific aspect of insanity to read Dr. Chapin's views, which we quote: "A larger number of recent cases now recover in our hospitals than at a former period, and the mortality at this stage is decidedly reduced. These encouraging results may be ascribed largely to the increased interest and advancement in neurological investigation, to the more intelligent appreciation of the effects of deficient nutrition and of certain degenerations of the nervous system as factors in the production of insanity;



to the administration of liberal quantities of food; the prolonged use of tonics; to the more satisfactory effects from new hypnotics; and the recognition of the fact that mental disease is frequently but one of the expressions, or manifestations, of deficient and improper nutrition. The internal administration, the dietary, and care of patients in all the hospitals have also steadily improved. The wards and departments are more comfortably furnished and rendered attractive by pictures; the general service is improved; the proportion of attendants to patients has been increased; the better training of attendants has supplanted the use of mechanical restraints; the restriction of personal liberty is reduced to a minimum consistent with safety; and occupations calculated to divert the mind have an established place in the daily routine of every hospital. In all these essentials to good administration your hospital has been a pioneer in all advanced work of the past, and is not now in the second rank. It stands to-day well equipped and appointed, to continue the good work it has performed through so many years. There seems to be no limit to the extent to which additions may be made to hospital furnishings, nor are there restrictions of a professional nature that should prevent the adoption of home-like plans for hospital dwellings to the extent that convenience of administration will admit. The reflex influence of agreeable hospital environments upon patients, attendants and all concerned, in improving the tone and elevating the standard of administration cannot be over-estimated, and is a sufficient compensation for any reasonable expenditure in this direction."

The gymnastic pavilion, which has been in course of construction during 1889, is now completed. The building is frame, 105 feet long and 42 feet wide. It is detached from the main building and contains a reading-room, bowling-alley, sitting-room, billiard-room and gymnasium proper. Systematic instruction is given to a class twice a day.

The physicians of the hospital attend the out-patient department of the hospital in the city twice a week. It was thought that many cases of incipient insanity might be treated and averted in that way. The service has not been largely patronized.

Regular lectures to attendants have been delivered during the year by Drs. Brush, Nunemaker, Harrison

and Josselyn. Drs. Wetherill and Harrison have delivered lectures to the patients on Botany and Natural History. The usual number of entertainments have been given.

Dr. Chapin is strongly of the opinion that the present laws throw ample safeguards about a patient's liberty against conspiracies, etc.

During the year, Dr. H. M. Wetherill, Jr., resigned his position as assistant physician to become Secretary of the Committee on Lunacy.

The report is enhanced by the introduction of two beautiful cuts—one of the new cottage and one each of the male and female departments. T. D.

SOUTH CAROLINA LUNATIC ASYLUM, AT COLUMBIA, S. C.  
—Dr. P. E. Griffin, superintendent of this institution, has, for political reasons, been removed; likewise Dr. Toby, of the Toledo, Ohio Asylum. Changes of this kind for such reasons may subserve the temporary interests of parties and partizans, but what of the welfare of the insane, whose diseases demand skilled and experienced service?

It is an error of judgment, against the teaching of all experience with the insane and a crime against the most pitiable of humanity's unfortunates, to make these summary changes.

Give the lunatic a chance, gentlemen governors. It would not prejudice your chances for political preferment to fly a flag of truce over these homes of the public heart's charity, and it might enhance your chances for heaven. You might hide a multitude of political sins by having a care, as you ought, for the welfare of the insane.

## IN MEMORIAM.

JESSE PARKER BANCROFT, M. D.—Dr. Jesse Parker Bancroft died at his home on Pleasant street, at one o'clock the morning of April 30th inst., at the age of seventy-six years. His illness dates back to October, 1889, when he was attacked while presiding at a meeting of the New England Psychological Society, in Boston. He rallied from it in a few days and was brought to his home, but he never recovered his former health. He kept up his interest in affairs, but took no part in active business. His last attack of uræmia was at four o'clock on Wednesday morning, which produced a coma from which he never rallied.

Jesse Parker Bancroft, son of Jonathan and Betsey (Parker) Bancroft, was born in Gardner, Mass., April 17, 1815. He fitted for college at Andover, Mass., and entered Dartmouth College in 1837, graduating from that institution in 1841. He studied medicine with the late Prof. Peaslee, of New York, graduating from the Dartmouth Medical school in 1844. During the period prior to his medical graduation he was demonstrator of anatomy in Brunswick Medical College. After graduating from the Medical school he was assistant teacher in the Pinkerton Academy, Derry, for nearly a year. In 1845 he commenced the practice of medicine in St. Johnsbury, Vt., where he remained for twelve years, developing a large general and consultation practice. He was a member of the Vermont Legislature in 1853.

In 1857 he was called to take charge of the New Hampshire Asylum for the Insane at Concord, as superintendent and treasurer, and on July 15th, of the same year he entered upon his duties. He remained superintendent of this institution, for twenty-five years, when he resigned the office, retaining that of treasurer until the year 1890. His term of service in the institution was longer than that of any of his predecessors in the same office, and among the longest of any asylum superintendent in the country. He was professor of mental diseases for three years in the Dartmouth Medical school, and for several years was president of the New England Psychological Society.

During the year 1875 he spent much time in visiting foreign institutions for the treatment of mental diseases.

Much that he saw during this trip confirmed the ideas his long experience had given him. Upon his return home he devoted himself with renewed vigor to improved methods in the cure of the insane, and particularly to the modification of asylum architecture. In the later years of professional life his work in this direction, both in the societies of which he was a member, and particularly in the erection of new buildings and remodeling of old wings in the New Hampshire Asylum, has given him a national reputation among specialists of insanity. He was a member of the New Hampshire Medical Society, the National Association of Medical Superintendents of Asylums, and the New England Psychological Society.

He married Elizabeth Spear, of Hanover, in 1847, who survives him, as do his son, Chas. P., who succeeded him as superintendent of the New Hampshire Asylum for Insane, and one daughter, the wife of Dr. B. R. Benner, of Lowell, Mass.

JULES G. F. BAILLARGER, M. D.—The *Journal of Mental Science* pays the following appropriate tribute to the departed Psychiatric *savant*:

Dr. Jules Gabriel François Baillarger was born at Montbazou (Indre-et-Loire), March 26, 1809, and died December 31, 1890.

He commenced his medical studies at the School of Medicine at Tours, and completed them in Paris.

On the recommendation of Esquirol he was appointed *eleve externe* at the Maison de Charenton, in November, 1830. Two years afterwards he became an *interne* in this hospital. Under Esquirol's direction he became an enthusiastic student of mental alienation. He always retained his admiration of his great master. At the inauguration of his statue at the scene of his labors he expressed his feelings in eloquent terms.

His inaugural thesis on a subject still occupying the attention of alienists—the seat of certain meningeal hemorrhages—was published in 1837.

In 1840 he was appointed to a post at the Salpêtrière.

In 1843 he founded the *Annales Medico-Psychologiques*, of which he remained editor until his death.

About the same time he became one of the medical proprietors of the well-known Maison de Sante "Ivry."

To attempt to analyze, or even enumerate, the works he has written and the clinical studies with which he has enriched psychological medicine would be impossible in this obituary notice. We hope to do this in a future number in a review of his "*Recherches sur les Maladies Mentales*," recently published.

For upwards of twenty years he attracted large audiences to his lectures at the Salpêtrière, of which he was honorary physician when he died.

M. Ritti (Charenton) has written an excellent and appreciative memoir of Baillarger, and from it we cannot do better than cite the concluding passages:

“A l'exemple de son illustre maître, M. Baillarger aimait à s'entourer d'élèves. S'il a contribué aux progrès de la science par ses travaux, par son enseignement de la Salpêtrière et par la fondation de la Société Médico-Psychologique, il savait aussi entretenir parmi ses disciples une activité féconde. Il leur indiquait des sujets de recherches, les aidait de ses conseils, les soutenait contre les difficultés. Jusque dans les dernières années de sa vie, il appelait à lui les jeunes, leur communiquait son amour pour la science, pour l'observation clinique, pour les recherches désintéressées. Contrairement à ce qui se passe d'habitude, il ne regardait guère en arrière; beaucoup déjà été fait, aimait-il à répéter, mais beaucoup reste à faire. Dans son ardent amour du progrès, il nous faisait entrevoir ce que l'avenir promet pour l'amélioration de l'assistance publique des aliénés, pour la thérapeutique des maladies mentales, etc., sa conversation ne tarissait pas sur de tels sujets.

“M. Baillarger était un vieillard fin et spirituel, ayant conservé tout l'enthousiasme de la jeunesse pour les problèmes scientifiques et professionnels; son enthousiasme était communicatif et il n'est personne qui ne se sentit plus d'ardeur pour le travail après l'avoir entendu. Il conserva cette activité intellectuelle et même sa mémoire jusqu'au dernier jour de sa longue et heureuse existence. Tous ceux qui l'entouraient l'estimaient et l'aimaient; sa nombreuse famille, ses amis, ses disciples, en voyant son intelligence toujours en éveil, si vive et si pénétrante, lui promettaient encore de longs jours, lorsque le 31 Décembre, 1890, au soir, après une indisposition qui semblait guérie, il s'éteignit sans agonie. Cette fin que rien n'a troublée a été vraiment, comme dit le poète, le soir d'un beau jour.”

Funeral discourses were delivered at the tomb (January 5, 1891), by M. François-Franch, M. Blanche and M. Bouchereau, the President of the Paris Medico-Psychological Society.

We have little to add to this just tribute to this distinguished *confrère* except what all the world knows, namely, the psychiatric world has lost in M. Baillarger's death one of its intellectual giants.—[Ed.]

RICHARD GUNDRY, M. D.—The death of Richard Gundry, M. D., Medical Superintendent of the Spring Grove Asylum, Maryland, is thus noticed in the *Journal of Mental Science*:

Dr. Gundry was born in 1830, at Hampstead Heath. When thirteen



years of age he accompanied his father, the Rev. Jonathan Gundry, who was a Unitarian Minister, to Canada, and commenced the study of medicine at Simcoe, Ontario. He ultimately graduated at the Harvard Medical School, where he carried off the first prize. After a tour through Europe he commenced practice in Columbus, Ohio, and was then appointed second assistant physician in the Columbus Hospital for the Insane. He also held the post of Professor of Materia Medica and Mental Diseases in the Starling Medical College, Columbus. In 1858 he was transferred to the Ohio Insane Asylum at Dayton, and in 1861 he was promoted to the superintendency. This post he held until 1872, when he was chosen to complete and organize the asylum at Athens, Ohio. This institution was opened in 1874, and he continued in office there until 1877, when he returned to the asylum at Columbus. "Political manipulations," says a contemporary, "caused a severance of his connection with this institution," and in June, 1878, he commenced his work at Spring Grove, where he continued until his death, which occurred in April last, in the sixty-first year of his age. He leaves eight children. Two are members of the medical profession; one—Miss Mattie Gundry—is matron of the Home for Feeble-Minded, Baltimore.

Dr. Gundry was well known to most of the readers of this journal and to its editor, as an accomplished gentleman and a thoroughly qualified superintendent.

His talent, by natural aptitude and training, he was fully fitted for the work in which he had been long engaged. He leaves a void at Spring Grove not easily to be filled.—[*Ed.*

## REVIEWS, BOOK NOTICES, &c.

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CARE AND DETENTION OF THE INSANE. By Dr. W. B. Fletcher.

This is the title of an address read before the National Conference of Charities and Correction, at Indianapolis, in May last. The author essays "in a general and suggestive way, rather than exhaustive," to answer the following questions:

"Who should be detained or committed as insane? What degree of insanity demands attention? How shall they be committed? Where shall they be detained? How long shall the detention continue? How shall the agents be appointed who are to care for the unfortunates who are to be detained?"

We do not think questions like these can be profitably discussed in a "general and suggestive way." Too much time has already been wasted in such discussions. Dr. Fletcher, in general, is opposed to the existing order of things. He is opposed to the jury system of commitment. He also severely criticises the law which he says obtains in many States, of the hospital superintendent passing final judgment upon the sanity of a patient before he sees him. It is news to us that such a custom is in vogue. It is absurd to shut up in an asylum all cases of insanity. Many patients are detained long after they have fully recovered. Each city should have in its general hospital a room suitable for the temporary detention of the insane, where they could be placed instead of in the jails, as at present. As to the present hospitals, Dr. Fletcher says:

"I predict that in fifty years the piled up structures of architectural magnificence, with palatial officers' quarters in the center, flanked by prison cells, will stand empty monuments of our ignorance, or will be changed into shops or factories or schools of learning, while true principles will prevail and we shall learn, looking backward to the little Belgian village where, for hundreds of years, the insane have been treated in simple fashion of village life."

The writer pays his compliments to the asylum superintendents in these words:

"Nearly all we have learned comes from experience, study and observation of men who were never superintendents of institutions."

There are no trained alienists; medical assistance is grossly insufficient.

What is needed is smaller and cheaper hospitals; uniform commitment laws; that provision be made for entering the insane into general hospitals, at least, temporarily; that four-story buildings, cell-locks, cribs and irresponsible attendants be abolished; treatment of female patients by physicians of their own sex.

All these great questions are discussed in a very small twelve-page

pamphlet! Within this small compass the author discusses a dozen questions, any one of which might form the title of an exhaustive essay. It is a bare statement of views, as most of these questions are controversial and as the author has taken a radical position, generally, it is difficult to see how he expects to carry conviction to any of his hearers. Some of the changes which Dr. Fletcher advocates may come, but his support or antagonism to them will not affect the matter. T. D.

**A TREATISE ON THE DISEASES OF THE NERVOUS SYSTEM.** By William A. Hammond, M. D., with the Collaboration of Græme M. Hammond; with One Hundred and Eighteen Illustrations. Ninth Edition; with Corrections and Additions. New York: D. Appleton & Co.

This is the Ninth Edition of this standard American authority. The book has also received the tribute of translation into the French, German and Spanish languages, besides having been re-published in England.

The distinguished author is too well known to the profession to require further introduction, but were the author obscure and unknown, this revised edition, like its predecessors, would speak for itself. Dr. Hammond and the illustrious Brown-Sequard were the pioneer American neurologists and Hammond remains in this country foremost among neurological clinicians and neurotherapeutists. His classical and elaborate descriptions of nervous diseases are unrivaled in the literature of medicine. Since the first edition of this book, in 1871, additions and emendations have been made, to keep it abreast of neurological progress. To this end important chapters are given in the book before us on new diseases. Among them Syringomyelia, Acromegaly, etc. New illustrations of the earlier described diseases have been added, such, for instance, as: Myxœdema, Pseudo-hypertrophic Paralysis, Progressive Muscular Atrophy, Spinal Meningitis and Athetosis, together with important additions to the pathology of the latter disease, confirming the author's original claim for it as a distinct disease, to be differentiated from the past hemiplegic choreas, with a probable distinctive pathology. The author does not discuss Morvan's disease, partial spinal amnesia or astasia and abasia.

We think an error has been made by the revisor in omitting *Mir-yachit*, an uninduced disease nearly allied to hypnotism, and in not giving more space to *Morbus Thomsenii*.

Dr. Hammond continues to hold the views expressed in the first edition on cerebral hyperæmia spinal mutation, spinal anæmia; and it must be confessed that while some apparently strong objections may be urged against the author's views as to the pathology of spinal irritation, such as we have expressed and previous reviews of this work, the author's opinion has not yet been overthrown beyond further controversy by later investigations.

The book is much improved in its illustrative features, both by addition and elimination of illustrations. Too many anachronisms appear in the book as the result of negligent revision, matters and authors being still referred to as recent as when the first edition of the book appeared,

THE ANIMAL SUTURE—ITS PLACE IN SURGERY. By Henry O. Marcy, A. M., M. D., LL.D., Surgeon to Private Hospital for Women, Cambridge, etc.

This ably written monograph by the distinguished President of the A. M. M. A., is a compilation of a series of experiments carried out by the author upon the lower animals, as well as of his own experience, together with that of others, with animal ligatures in surgical practice. It is, furthermore, an exhaustive exhibit of the literature of the subject. It is interesting to the American physician to find in this monograph the facts recorded that: "Dr. Ephram McDowell in 1809 tied the pedicle of his first case of ovariectomy with a ligature of buckskin." In the history of ovariectomy, Dr. Nathan Smith, Professor of Surgery in Yale College, in 1821, tied the arteries with leather ligatures (narrow strips cut from a kid glove), which were returned into the peritoneal cavity and the incision was closed, followed by recovery.

Dr. John Bellinger, of Charleston, South Carolina, in 1835, successfully performed ovariectomy, tying two arteries in the pedicle with animal ligatures.

Dr. Marcy gives the method of preparing the ligatures, upon which he shows depends in great part the result obtained in its use, and states that the only requisite to the successful application of the ligature is that "*it must be in itself aseptic; it must be aseptically applied in an aseptic wound.*" He shows from cases in practice that the animal ligatures are readily absorbed and the wound heals without the suppuration which too often is the case with silken ligatures. The entire paper is worthy of careful study.

D. S. B.

STRUCTURE OF THE CENTRAL NERVOUS SYSTEM; FOR PHYSICIANS AND STUDENTS. By Dr. Ludwig Edinger, Frankfurt-on-the-Main. F. A. Davis, Medical Publisher and Bookseller, No. 1231 Filbert Street, Philadelphia, Pa. Price, \$1.75, net.

This is a good book, worthy to take rank for anatomical accuracy with Obersteiner and the other late works on the same subject and in smaller compass. The author pays the following compliment in his preface to the English edition to American Neurology:

"Modern Neurology owes so much to the labors of American physicians that the author deems it a special honor that his book is considered a fit guide for physicians across the ocean in their studies of the most difficult branch of anatomy."

The illustrations might be improved on in the quality and fineness of the cuts and in the substitution of English for German names on them. The author (page 109) has reached the conclusion that the origin of the optic nerve is definitely settled in the anterior quadrigeminal body, the corpus geniculatum laterale, the pulvinar, the stratum zonale and the base of the brain. We do not know about this, though the author's reasoning is good and he gives this all-pervading cranial nerve much space for its point of origin. The author's diagrams and drawings are, many of them, original and clear. The situation of the cranial nerves,

as illustrated on page 217, will especially enlighten the young student. We commend the book as subserving the purposes of its translator, Dr. Eugene Riggs, of St. Paul, as set forth in his preface to the American Edition, viz., as an authoritative treatise for a college class.

INDEX OF DISEASES AND REMEDIES, Reprinted from the "Pharmacology, Therapeutics and Materia Medica," of T. Lander Brunton, M. D., D. Sc., F. R. S., with a supplement referring to the medical agents mentioned in the index and detailing the pharmaceutical preparations of those that are listed by Parke, Davis & Co.

This little volume furnishes a handy and valuable remembrancer for the desk of the student and busy practitioner. D. S. B.

VERHANDLUNGEN DES X., INTERNATIONALEN MEDICINISCHEN CONGRESSES. Berlin, 4—9, Aug., 1890.

Herausgegeben von dem Redactions-Comite, Band 1. Allgemeiner Theil, Berlin, 1891.

DIGESTIVE DERANGEMENTS AS CAUSES OF INSANITY. Dr. Samuel Ayers, of Pittsburgh, while recognizing the fact that the causal relation between derangements of the digestive system and insanity has long been known, presents in an interesting paper, published in the *Medical News*, July 4, 1891, some very suggestive thoughts upon the subject. He considers the subject in three parts (1), morbid states of gastro-intestinal canal and liver favoring the generation of toxic agents capable of causing mental disturbance; (2) absorption of these and their effects; (3) partial retention or retarded elimination of various poisons—their effect upon brain and excretory organs.

1. Chronic gastric and intestinal catarrh with indigestion is the most constant cause of nervous derangement. These catarrhs are caused in many cases in infancy or childhood by over-eating and use of improper food, especially hot breads. The cause and effect are continued, the result being a confirmed dyspeptic. Fermentation with putrefaction, evolution of gases, bacteria and their ptomaines next follow.

2. From these putrefactive changes in the intestinal canal the system is poisoned in one of the following ways: (a) Absorption of pathogenic microbes (auto-infection); (b) by absorption of chemical poisons or alkaloids formed by action of microbes on organic matter, viz., ptomaines (auto-intoxication); (c) combined action of microbes and their ptomaines (toxinfections); (d) entrance into the blood of various poisonous gases, especially sulphuretted hydrogen (sewage-poisoning); (e) the retention or imperfect elimination of excretory products (leucomamæmia). The normal action of the liver destroying alkaloids prevents us from being poisoned every meal. But with this great and constant additional work thrown upon it, it in time becomes unable to separate the wheat from the chaff. Headaches, vertigo, insomnia, morbid thoughts, etc., may at times be attributed to temporary absorption of



some of these alkaloids or gases. A brisk purge may remove all these troubles. But it is different when the blood is constantly poisoned in this way, then permanent pathological states are established, *e. g.*, gloom, insomnia, apathy, persistent headache, hallucinations or actual insanity. It is as reasonable to believe delusions, delirium, etc., may be caused in this manner as by the effects of atropia, hyoscyamine or conine.

3. The leucomaines represent that great class of waste products resulting from tissue metabolism, especially the so-called nitrogenous waste. To these add those substances which have passed through the liver unchanged or partly changed, such as peptones, sugars, albumoses and there is enough to produce insanity. The relation between the liver and mental depression is well known. The organs whose duty it is to eliminate waste products suffer. The skin is dry and harsh, the bowels torpid, the kidneys diseased.

Dr. Ayers frequently gives to cases of melancholia a nightly tablet composed of calomel, podophyllin and ipecacuanha, followed in the morning by Carlsbad water. This may be continued two or three weeks. Measures must be adopted to bring the digestive organs up to normal health as soon as possible and as near as possible.

By way of criticism, we would say that Dr. Ayers' paper is very thoughtful and suggestive. While much is theoretical and speculative, there can be no doubt as to the utility of the practical measures which Dr. Ayers suggests, which are, in a word: Bring digestive organs up to as near normal as possible; by judicious diet keep them there; see that the sewers of the body act freely. We cannot agree with the author when he says that chronic indigestion is the *most constant* cause of nervous derangement. That it is a more or less important factor, we admit, but we feel that Dr. Ayers, in his enthusiasm, has gone too far in this statement. One thing, which it occurs to us the author has overlooked, is the fact that digestive derangements are often the expression of an inherited or acquired nervous instability rather than the result of local diseases with local causes.

T. D.

**TRAINING SCHOOLS OF THE FUTURE.** Dr. Edw. Cowles, of McLean Asylum, Somerville, Mass., has been for some years an enthusiast on the subject of training schools for nurses. The school which he himself has established at the McLean Asylum is a monument to his energy and ingenuity. In a very interesting address, delivered before the National Conference of Charities and Correction, held at Baltimore, May 14th to 21st, 1890, Dr. Cowles dealt with the subject of training schools in a very comprehensive way. He believes that only a beginning has been made in this country and sees the possibility of founding training schools in nearly all the larger towns and small cities, even where there are no hospitals. In support of this proposition he cites example of the Waltham Training School for Nurses, which was devised and inaugurated by Dr. Alfred Worcester. Waltham, Mass., is a town of 16,000 inhabitants and has no hospital. The school was started in 1885, the responsibility being assumed by some lady managers, local physicians acting

as instructors. The school was made to pay from the start by instituting the plan of pupil service, *i. e.*, by sending out the first year "pupil nurses" to families at \$7.00 per week and of the second year at \$10.00. Last year the school earned \$5,748, and there is a balance of \$1,000 in the treasury. If a school can be established in a town where there is no hospital, it can, the author argues, be easily maintained in towns where there is even a small hospital, if the physicians of the town will co-operate.

Dr. Cowles cites the case of his own hospital to prove that general nursing can be well taught in hospitals for the insane. The McLean School, during the eight years of its operation, has graduated ninety-two nurses.

While we fully agree with Dr. Cowles as to the utility of establishing training schools in hospitals for the insane, we hold the knowledge of the graduates of general nursing must be much inferior to that of the graduates of the general hospitals, such as the Philadelphia, the Bellevue or the Massachusetts General. We have no doubt that the didactic instruction given in the McLean is eminently practical and thorough. But how many cases of typhoid fever, acute rheumatism, erysipelas or surgical fever has the graduate nursed? How many surgical cases? How many lying-in cases? We think that Dr. Cowles must agree with us that didactic instruction without practical experience on the part of the nurse falls short of its purpose. Now, on the other hand, the graduate of the McLean would be better fitted to nurse cases of neurasthenia, opium or alcohol habit, hysteria or insanity than would be the graduate of St. Luke's or the Bellevue. In our opinion, the product of the training school of the general and of the insane hospital, must necessarily be best fitted for different lines of nursing from the fact of their difference in practical experience. We do not wish to discourage instruction in general nursing in asylum schools—that would be a short-sighted plan, but we wish simply to emphasize the fact that even in large asylums the opportunities for practical instruction in *general* nursing are very much inferior to those in a general hospital. We speak from experience, having been connected with both a general hospital and an asylum, each of which maintained a school for nurses. We noticed at the Philadelphia hospital that the trained (graduate) nurses were seldom satisfied to serve in the department for the insane, especially those nurses who had principally served in the surgical wards. We feel sure they were not nearly as useful there as graduates of the McLean would have been.

The fact of the matter is that the two lines of work are very different. Many young women who are well adapted for asylum nurses would do poorly in the general hospital, and *vice versa*. Precisely the same thing may be said of physicians.

HYPNOTISME ET CROYANCES ANCIENNES, par Le Dr. L.-R. Regnier, Ancien interne des hôpitaux Lauréat de l'Académie de médecine, Lauréat de la Faculté de médecine, Lauréat de l'Institut Lombard des sciences et des lettres de Milan, Paris.

THE FIRE PROTECTION OF HOSPITALS FOR THE INSANE, by L. H. Prince, M. D., Resident Physician "Bellevue Place, Batavia, Ills.; formerly Assistant Physician Illinois Eastern Hospital for Insane, Kankakee.

This is a timely and practical book upon a subject important to hospitals and their inmates. It treats of the subject quite thoroughly, discussing many topics which deserve to be constantly in the minds of those in charge of hospitals or patients.

THE PATHOLOGY, DIAGNOSIS AND TREATMENT OF INTRACRANIAL GROWTHS. By Philip Coombs Knapp, A. M., M. D. (Harvard). Boston: Rockwell & Churchill, 1891.

This interesting book is just received as the last pages of the *ALIENIST AND NEUROLOGIST* go to press, and consequently too late for extended review.

Even a cursory examination however suffices to reveal sufficient evidences of its merits to justify unreserved commendation of at least the practical features of the book, and utility to the practitioner appears to be its chief if not its only aim.

The plates are good but not so finely executed as so meritorious a book deserves.

The Contents embrace Etiology, Pathological Anatomy (under the latter head, with six divisions, the morbid growths being discussed, followed by a dissertation on the changes of the brain consecutive to intracranial growths), Pathology, General Symptomatology, Special Symptomatology, Diagnosis, Course, Duration and Progress, Treatment and References.

Having but brief time in which to review this valuable book we naturally turn, after scanning its first pages, to its concluding chapters. Here the author's work culminates in the Diagnosis, Location, Course, Duration, Progress and Treatment. These chapters alone (and we have read them carefully) fully commend the book to professional confidence.

Tables VIII. and IX., on pages 141 to 154, with Summary, are valuable tabular exhibits for surgical and statistical reference.

As illustrative, in part, of the author's manner of treating his subject, we give the following concluding recapitulation:

"*The Diagnosis of the Existence of a Tumor.*—The diagnosis of an intracranial growth must be based chiefly upon the general symptoms already discussed; the focal symptoms, while of much value as corroborative evidence, are usually of secondary importance, for they are due to the seat of the lesion rather than to its nature. Given the characteristic general symptoms with the addition of focal symptoms, the diagnosis becomes easy. With general symptoms alone it is often hard to exclude other affections.

Of cerebral affections which may be confused with brain tumor we may mention abscess, meningitis, thrombosis or hemorrhage, lead encephalopathy, hysteria, migraine and paretic dementia; of other

affections contracted kidney and hypermetropia are those most likely to be mistaken for a tumor.

The distinction between abscess and tumor is often difficult. Optic neuritis is less common in abscess, and chills or rise of temperature may be present. The presence or absence of these symptoms, however, is by no means distinctive. The chief argument against abscess is the absence of any source for suppuration, especially suppurative disease of the middle ear or the nose.

It is easy to distinguish between typical cases of meningitis and tumor. Localized meningitis of chronic course can often not be distinguished from a tumor. As we have seen in the chapter on pathology, tuberculosis or syphilis may give rise to diffuse meningeal changes or to more discrete lesions which, if of chronic course, become actual neoplasms; and, in the cases recorded we have found the two conditions of tumor and meningitis frequently co-existing. A chronic course, symptoms of increased pressure, optic neuritis and certain marked focal symptoms, such as aphasia or monoplegia, are more suggestive of tumor; but the distinction can seldom be made with certainty, except in the cases when we can definitely localize the trouble within the brain substance.

In a few cases a tumor may give rise to symptoms resembling those of hemorrhage or thrombosis, as in Case XVI. Here the difficulty is due to the absence of the more characteristic signs of a tumor, optic neuritis, headache, etc. In ordinary cases the presence of these symptoms and the nature of their onset will render a diagnosis possible.

Inasmuch as lead may give rise to optic neuritis, headache, vomiting, convulsions and mental impairment, it is not strange that lead encephalopathy may be mistaken for tumor. The distinction must rest on the history of exposure, the detection of other symptoms of lead poisoning, and the presence of lead in the urine.

Case XXXI. was thought to be hysterical. I recall a case of profound hysteria that was for weeks thought to be brain tumor. The mistake has been made by more than one skilled neurologist. Headache, vomiting, partial epilepsy, anæsthesia, amaurosis, monoplegia, may all be seen in hysteria. Optic neuritis and hemianopsia are strong evidence in favor of organic disease. In many cases, however, the decision can be made only after prolonged and careful observation. The impression which a hysterical patient makes on the observer is often of much value. Facial or oculo-motor paralysis is rarely, if ever seen in hysteria, while the presence of the hysterical stigmata is evidence in favor of that affection.

It is usually easy to distinguish between tumor and migraine, but if the headache of tumor be of varying intensity and there be no neuritis or focal symptoms, and if the early history of long-continued attacks of headache be wanting some difficulty may arise.

Case XIV. presented a fairly typical picture of paretic dementia, and all who saw him made that diagnosis. Such cases are rare, and

ordinarily no confusion would arise. The speech, handwriting, fibrillary tremors and facial expression of paretic dementia on the one hand, and optic neuritis, headache, vomiting and vertigo of tumor on the other, make the distinction easy.

When uræmic symptoms develop in cases of contracted kidney the patient may have headache, vertigo, vomiting and partial epilepsy. There may be retinitis with white spots and hemorrhages in the macular region, which may be mistaken for the neuritis of brain tumor, although in the former the changes are more marked in the retina and in the latter in the nerve. Repeated examinations of the urine, as to quantity as well as quality, determination of the size of the heart and a study of pulse-tracings may give valuable evidence in favor of contracted kidney. In the forty cases here collected, however, renal disease and a tumor have sometimes both been present. In such cases the problem becomes much more difficult and its solution, as we have seen, is often impossible.

It sometimes happens that with hypermetropia the patient may have not only severe headache but also a little swelling and haziness of the discs if the eyes have been much used. Such a case once caused me to be for a day or two somewhat suspicious of a new growth. The absence of other symptoms and the detection of hypermetropia by careful ophthalmoscopic tests and tests with lenses will usually solve any doubts.

*The Diagnosis of the Location of a Tumor.*—In the preceding section the focal symptoms of a tumor have been gone over sufficiently to render it unnecessary to speak in much detail here as to the focal diagnosis. I will, therefore, cite, very briefly the striking focal symptoms of tumors in the various regions of the brain.

*Pre-Frontal Region.*—Marked mental impairment; symptoms of invasion (partial epilepsy, aphasia); disturbances of smell.

*Central region.*—Partial epilepsy; monoplegia; partial anæsthesia; motor aphasia.

*Posterior Parietal Region.*—Word blindness; disturbance of muscular sense (?); homonymous hemianopsia.

*Occipital Region.*—Homonymous hemianopsia; soul blindness.

*Temporo-Sphenoidal Region.*—Latent Region. Word deafness; disturbances of taste, smell and hearing (?)

*Corpus Callosum.*—Partial Region. Progressive hemiplegia, often bilateral, from invasion.

*Optico-Striate Region.*—Hemiplegia; contracture. In posterior part, hemianæsthesia, homonymous hemianopsia, post-paralytic chorea, athetosis.

*Crus Cerebri.*—Crossed paralyses of oculo-motor nerve and limbs.

*Corpora Quadrigemina.*—Oculo-motor paralyses; reeling gait; blindness (?); deafness (?).

*Pons and Medulla.*—Crossed paralyses of face and limbs or tongue and limbs. Other cranial nerve lesions.



Cerebellum.—Marked cerebellar ataxia; marked vomiting; often a latent region.

Base, Anterior Fossa.—Mental impairment, disturbance of smell and sight, exophthalmos.

Base, Middle Fossa.—Disturbance of sight; oculo-motor disturbances; hemiplegia.

Base, Posterior Fossa.—Trigeminal neuralgia; neuroparalytic ophthalmia; paralyzes of face and tongue; disturbance of hearing; crossed paralyses.

Hypophysis.—Disturbances of vision; oculo-motor disturbances.

In addition to determining the seat of a tumor, it often becomes of some importance, in tumors of the cerebrum, to determine whether they are in or near the cortex or deeper down in the white matter. The symptoms are often much the same, but Seguin has formulated certain rules which are of some value, although, as he states, the distinction is often only conjectural. 'In favor of a strictly cortical or epicortical lesion are these symptoms, none of them having specific or independent value: localized clonic spasm, epileptic attacks beginning by local spasm, followed by paralysis; early appearance of local cranial pain and tenderness; increased local cranial temperature. In favor of subcortical location of a tumor: local or hemiparesis, followed by spasm; predominance of tonic spasm; absence, small degree or very late appearance of local headache and of tenderness on percussion; normal cranial temperature.'

*The Diagnosis of the Nature of a Tumor.*—The Diagnosis of the nature of an intracranial growth is, in the present state of our knowledge, only conjectural. The determination of the seat renders it possible to suspect certain forms of growth; thus, in the cerebellum, growths are more apt to be tubercular, and in the white substance of the cerebrum, sarcomatous or gliomatous; multiple growths are more commonly tubercular or syphilitic.

Certain other symptoms may give us some help. The discovery of cancer or sarcoma in other organs may lead us to suspect a metastatic deposit in the brain. The presence of a marked cachexia strengthens this suspicion. Evidence of tuberculosis elsewhere, or of a tubercular diathesis, or symptoms of syphilis may help us in our diagnosis. A denial of previous syphilis is, of course, of little value. The age of the patient may also be a guide, tubercle being especially common in young subjects. Heredity may throw a little light, especially with cancer and tubercle.

So far as the actual symptoms of tumor go, they give comparatively little help. Frequent apoplectic attacks and a moderately slow progress are said to point to a glioma. Sudden changes in the symptoms, as in Case IV., may be due to a varying amount of blood in very vascular growths. If, with a tumor localized at the base, we get a distinct bruit, or if we can localize the growth distinctly in the neighborhood of a vessel, we may suspect an aneurism, but Gowers thinks the bruit is rare in

such cases. In very few cases, however, can we be at all positive as to the nature of a growth."

The final chapter (for which we have not space) on treatment will amply repay the reader's perusal. We should have been pleased had time and space permitted to re-perused and discussed at length the chapters on special and general symptomatology, but for obvious reasons the concluding recapitulations must at present satisfy the reader.

We lay down the book with a decidedly satisfied impression as to its merits and a desire to recur to it again—assured that, aside from the favorable impression its rather too hasty perusal has given it will prove to us a valuable reference in clinical emergencies where possibility or probability of internal brain growth presents.

That the book will win its way to popular favor in the profession we entertain no doubt. It is a good effort, concise, statistical, logical and practical.

The author acknowledges valuable assistance from Dr. J. T. Eskridge, well known to the readers of the *ALIENIST*; Dr. L. G. Webber and T. W. Fisher, whose services certainly do not detract from the value of the book.

**THE INTRACRANIAL CIRCULATION AND ITS RELATION TO THE PHYSIOLOGY OF THE BRAIN.** By James Cappie, M. D. Edinburgh: James Thin, 54 and 55 South Bridge, publisher.

The author's aim in the following pages has been to give a contribution, on the one hand, to Intracranial physics, and on the other to mental physiology, his speculations in the latter direction depending on the tenability of the former.

The author is not a physiologist but a general practitioner and as such he asserts that he belongs to a grade that scarcely allows time for quiet, consecutive thinking, still less for the assiduous attention which careful experimenting requires.

This fact, while not likely to recommend either the author's procedure or its results to those who are inclined to appreciate only those conclusions which have been tested in the physiological laboratory, will give the book an especial interest to the physician in active practice, because it is a clinician's conclusions, based upon the physics and physiology of the brain so far as known, with the added light of clinical observation.

The following, from the author's Preface, will serve to show his style of reasoning:

"The galvanometer may detect agitation in a sensory service, but it can tell us nothing about sensation. The convolutions of a dog's brain may be tampered with, but he will not describe to us his feelings. Consciousness alone can discriminate the facts of consciousness; and the character and succession or relation of these can only be detailed in terms metaphysical. That the nervous system presents special difficulties to experimentalists is admitted by themselves. In the last few years

conclusions have been confidently drawn from some experiment and by their author made to appear as truth fixed once and for all time, and yet by the next investigator they have not only been controverted but perhaps fairly overturned."

The author is not opposed to experiment, but would suggest something complementary and for this reason lays stress on the importance of certain general physical conditions being taken into account as bearing on the action of the brain. What he contends for is, that the physiological bearing of the brain's surroundings has not received the attention it deserves. The cranium has been regarded simply as an organ of protection and much has been written to show how well adapted it is for such a purpose. By its form and the firmness and elasticity of its walls, it combines moderate weight with great power of resistance and thus, while not a burden to the individual, it secures the delicate structure of the brain against physical injuries. Therefore the author, in this treatise, attempted to show that the properties of the skull exert a positive influence on the physiological action of the brain itself and that the peculiarities of the encephalic circulation—so numerous and so striking—now receive less attention than they did in the early years of the century. It is with some hope of reviving interest in these peculiarities and to point out certain modes in which they can exert an influence on the brain's activity, the author submits these essays.

The action of a muscle may be determined with great precision by a study of its leverage relation to the bones and the restraint of its investing fascia, although no knowledge be possessed of the physical and chemical changes involved in contraction of its fibers. In like manner the brain may be studied in its relation to certain broad physical conditions and the influence of these on its working may be recognized, although the immediate source of nerve energy may remain a complete mystery. It is in accordance with such an assumption that the author has pursued his argument. He attempts to trace a relation between the brain's mode of working and certain peculiarities in its surroundings or conditions and though he submits no original recondite researches on the subject he deals with well-established facts or generally admitted physical and physiological principles and applies the latter to his subject.

By the method he pursues more light may be thrown on the physiology of the brain than can in the meantime be expected from any analysis of its structures, however minute and accurate that may be. In every phenomenon there is of necessity a chain of causation, but the revelations of minute anatomy are too frequently only isolated links. They furnish interesting facts, rather than the explanation of wider phenomena. They show us instruments but not action. Closeness of vision reveals many minute points of detail, but it interferes with perspective, or our notion of the relation of things in space; nor does it always throw light on that relation of events in time which is due to continuity in the flow of energy. No analysis of sea-water would ever explain the flow and ebb of the tide; nor will the microscope or test-tube ever explain the

flow and ebb of consciousness. Possibly, however, some measure of success may be gained if we hold the brain, as it were, at arm's length, and take a bird's-eye view of its more palpable relations. In this way, I think, we may be enabled to recognize not only facts, but also sequence. We may possibly get at least a few glimpses of that order of combination and succession which constitutes causation; that is to say, we may find positions which will naturally tend to the transference or transmutation of energy. To make some small attempt of this sort is the author's present aim and he has a strong conviction that at least the direction he ventures to point out is one in which progress is to be made and he hopes that one or two of the pathways he has attempted to open up may not be altogether useless to the future explorer.

The Contents of this book embrace a study of The Philosophy of Physical Causation; The Correlation of Mind and Brain; The Intracranial Circulation; The Capillary Circulation; The Uniform Mass of Blood within the Cranium; The Relation of the Cranial Contents to the Pressure of the Atmosphere; The Causation of Sleep; Some Points in Mental Physiology.

Also an Appendix, in which various theories, advanced from time to time by different authors, are presented, regarding the circulation, sleep, coma, etc.:

Kellie vs. Burrows on the Cerebral Circulation; Durham on the Physiology of Sleep; Dr. Lyon Playfair on Sleep and some of its Concomitant Phenomena; Dr. Charles H. Moore on Going to Sleep; Dr. Marshall Hall's Theory of Sleep; On Compression of the Carotids; Coma from Depressed Bone; Dr. B. W. Richardson on Death from Ether.

The later theory of Mauthner on the physiology and pathology of sleep, which is quite similar to the author's, is not mentioned in the book probably because the book was published before this writer's paper appeared in print. Lest Dr. Crippie may not yet have seen it we briefly note the briefest presentation of the view of the writer referred to. The *American Journal of the Medical Sciences* for November, 1890, quoting from Mauthner's paper, gives this author's theory thus:

"Sleep is to be considered as an evidence of tiring of the central gray matter of the ventricles. Because of the temporary suspension of function in this portion of the brain, both the centripetal and the centrifugal nervous paths communicating with the cortex are cut off. Consequently sensory impressions are not conducted to consciousness, although the sensory organs on the one hand and the cells of the cerebral cortex on the other have not suspended their function. In the same way the motor cells are normally innervated in dreams, but, on account of interruption in the conduction along the central gray cavities, no motion is produced, in spite of the fact that the normal power of conduction in peripheral nerves remains. Finally, the focal symptom of ocular paralysis is present, for the falling of the eyelids in those becoming sleepy is a true ptosis, while the simultaneous occurrence of double vision indicates a marked disturbance of innervation in the external ocular muscles



The book is appropriately illustrated in colors and will certainly enlist the thoughtful attention and interested consideration of the clinician and the physiologist.

The author pays his respects to the metaphysicians and thinks they do not grasp the subject he is considering, in which we concur:

"It need hardly be said, however, that within the sphere of consciousness, metaphysic reigns supreme. Sensation, perception, ideation, and so forth, take no cognizance of molecular action in the brain."

He adopts the plenum theory of the brain with reference to its circulation (in which we do not entirely concur) and reasons admirably on the subjects of the cerebral circulation and sleep, but for the omission of a most essential factor in the determination of the subject, viz., the perivascular spaces. The following pages will serve to show the trend of the author's argument and to inspire the reader to read the remaining pages and chapters of this fascinating book:

In regard to the brain he reminds us that it occupies a close, rigid cavity which of necessity must be constantly full. It cannot, therefore, recede from the inner surface of the cranial wall (which, of course, it must do if it is to diminish in bulk) without some other material taking its place. We may be certain that "nature's horror of a vacuum" is here absolute. If the vascularity of the brain, then, is to be lessened, there must be a special mechanism by which that end is to be secured.

Such a mechanism will, I believe, be found in the arrangement and relations of the veins of the pia mater. These vessels constitute, as it were, a reservoir, ready, on the one hand, to accommodate superfluous blood, and, on the other, to afford space by yielding it up again. The mode by which either result may be gained can, I think, be readily traced.

If we take the encephalic circulation at any moment, we find that a certain balance exists and the movement of blood goes on smoothly. This steady movement will continue so long as all the factors remain unchanged. The backward pressure of the atmosphere will produce no sensible effect so long as it is balanced by the support afforded to the vessels of the pia mater by the solid brain structures.

But what will happen if the molecular and capillary forces become relaxed and thus the support given to the veins be weakened? Evidently, the balance of active pressure will now be altered. The brain mass will not bear upwards or outwards with the previous amount of force. The backward pressure, therefore, will now act with greater effect. The immediate result must be that the movement of blood in the veins will be retarded and the vessels themselves become distended. This distention will go on until the opposing brain resistance can again balance the pressure on its surface. This will occur when the more simply conservative form of nutrition prevents the capillaries from being further drained.

The mode in which this altered circulation occurs may be expressed in another way. If the brain tends to retire from the inner surface of the skull (and that it does so is the unanimous testimony of all who have



observed its behavior through an opening in the bone), it must exert a certain amount of suction force. Now, on what can suction effort here bear with any effect? Evidently the cranial wall will resist it. The rigid bone cannot follow the retiring brain mass. As evidently, it cannot be exerted on the cerebro-spinal fluid within the vertebral canal, for this is removed from the direct action of the atmospheric pressure. The only fluid or tissue which can be immediately affected by such suction is the blood in the veins and it will act by retarding the flow of blood through these vessels. The result must be that a new balance of the encephalic circulation will be established—less blood will circulate in the arterial and capillary vessels of the brain and to an exactly corresponding extent more must be held by the veins. To anyone who will be at pains to take a survey of all the various conditions and relations involved, the occurrence of such a change must, I think, present itself as a physical necessity.

The author has just been considering the condition of wakefulness: he now, by contrast, proceeds to discuss the phenomenon of sleep:

We are at once led to recognize the tyranny and supreme importance of physical conditions. Consciousness, it need hardly be said, conveys us only a very short distance toward a knowledge of its phenomenon. These are to be studied, not by self-introspection, but by external observation. Impressions from without are now felt obscurely or not at all. The feeling of drowsiness is a matter of experience, but so soon as sleep has fairly asserted its supremacy, the higher consciousness which recognizes and discriminates the realities and relations of existence and suggestion is for the time lost.

Although, psychologically, sleep thus contrasts with wakefulness as night does to day, physiologically we have in both the same organic instruments to deal with. And any theory of the causation of sleep must be in harmony with the physiology of active function. Only so far as we can speak positively as to details in its working condition can we infer as to the modifications of these involved in its rest. We must, therefore, be able to predicate with sufficient certainty some facts in regard to the behavior of the brain elements and forces during wakefulness, and then our problem will be to determine in what respect that behavior is modified in the production and continuance of sleep. It is evident that some inhibitory influence is at work in the brain. The rest of the latter is enforced; some mechanism "acts with power, putting the brain into compulsory abeyance and depriving the subsidiary organs of their sense." The question, therefore, now comes, how far can this inhibitory mechanism be traced?

The physiological changes which accompany the flow and ebb of consciousness constitute a circle, in tracing which any point may be studied as a *terminus a quo* or as a *terminus ad quem*. At each and every stage—whether the consciousness be latent or alert—the molecular motions, the blood currents and the intracranial pressure or tension are

all correlated to one another and to the state of the mental functions. Simply as a matter of convenience, therefore, we will here begin with the stage of first awaking from sleep.

One of the most absolute of the conditions of brain activity is the circulation of healthy blood. I need not here again discuss the dependent, or, at least, very sensitive, relation of the capillary circulation to metabolic changes. From the biological point of view, the molecular movement in the brain tissue and the movement of blood in the capillaries cannot be separated. Anatomically, such separation is difficult; physiologically, it is impossible. As an organ which stores up, transmutes and liberates energy, the brain is as much dependent on its supply of blood as the burning fuel is dependent on a current of air; and, again, the flow of blood in the capillaries depends as much on activity in the molecules as the draught of air through a furnace depends on the act of combustion.

The more immediate result of the combined molecular and vascular commotion is an increase in the bulk of the brain; a second result is an increase of stress through the whole cranial cavity. The flushing of the capillaries with rapidly moving blood is the cause of the first; the tendency of the expansion to go beyond the limited space of the cranial cavity is the cause of the second.

That there is a decided tendency to expansion of the brain itself during activity may be regarded as a matter of fact. When the organ has been so exposed from injury that its behavior can be observed, it has always been noticed that while during sleep it tends to sink or to retire from the inner surface of the skull, in wakefulness it is seen to expand. It not only fills the whole cranial cavity, but part of its substance may protude beyond an aperture in the bone. Evidently, some forces are at work in the latter state which are quiescent or less powerful in the former and their tendency is to make the brain increase in bulk. If its rigid envelopes were suddenly to give way when, for example, severe muscular efforts are being made, the momentum of the blood would cause further distention of the vessels; these in a moment would become more tensely filled and the organ would instantly expand beyond the bulk it could possibly occupy while its encasing walls were entire.

For a number of hours—the time varying according to habit and other circumstances—the molecular forces keep in full play and the natural correlative is some psychical or motor change. Fleeting impressions from without register themselves faintly or more sharply, according to their intensity or the attention they receive; teeming fancies within chase one another with aimless chance-directed procession, or disciplined thought steers steadily onwards to some destined goal; or movements of the body, overcoming resistance and doing work, give evidence to outsiders that a powerful energy is being liberated.

After a time, a law, potent in physics as well as in physiology, comes into play. Energy cannot be liberated without immediate loss to the instrument and unless the loss is made up failure of function must

sooner or later ensue. Of the operation of this law the brain presents us with a notable illustration.

In animal structures, capacity for function depends on a certain standard of composition being maintained. The process of nutrition by which this standard is kept up involves unceasing change, but by a delicate balance of operations, the same composition is preserved to the texture. In the higher organs, a distinction is to be made between the nutrition—or rather metabolism—of active function and that of rest. In the brain the process goes on with a regular ebb and flow. During its rest the action is recuperative, energy is stored up, adjustment is improved. The molecular structure becomes more sensitively disposed to respond to stimuli, and the attraction of its elements for the oxygen of the blood is more powerful.

In the active discharge of function the process is modified. The metabolic changes are not simply more rapid; the mode too is altered. The disintegrating—*katabolic*—part of the process so predominates that repair for the time fails to compensate for the waste, and thus the nice adjustment on which functional capacity depends is disturbed. As this goes on, a positive change of composition or of constitution results. It may not be so gross that the microscope could detect it, but lessened capacity for the exercise of function gives us a sufficiently crucial test. The structure, as a whole, responds less readily or less accurately to its accustomed stimuli. The cell elements become so disposed that liberation of active force becomes less easy; they have less powerful attraction for the oxygen of the blood, and the infinitely subtle vibrations of the molecules begin to play with less energy. This lessened molecular activity is the first stage in the series of changes which culminates in the production of sleep.

The next link in the chain of causation and one which springs naturally and inevitably from the first, is a modified circulation in the capillaries of the brain. Here, as in other parts of the body, nutrition or metabolic change and the circulation act and react energetically on one another. In a texture of such delicate organization, functional capacity cannot be maintained without fresh currents of blood and without the subtle attractions between the latter and the tissue molecules, the currents of blood cannot be kept up. When rapid *katabolic* change or combustion is going on, the movement of the blood is only remotely dependent on the heart's action. That fluid then flushes the capillaries with an actively dilating influence, the vessels become tensely full, and the immediate result is a positive increase of volume in the organ. But if the activity among the molecules subsides, the circulation becomes quieter. Its excitement stood in the relation of effect to the other excitement as cause, and as the latter subsides so must the other. With the abatement of the actively distending force, the capillaries will become more readily emptied of blood, either by the natural elasticity of their walls, assisted, it may be, by the operation of ganglionic nerves, or by pressure applied externally from any direction.

"SOFTENING OF THE BRAIN," by S. V. Clevenger, M. D., Secretary and Fellow of the Chicago Academy of Medicine, formerly Pathologist County Insane Asylum, Chicago, etc. The author writes from competent knowledge of his subject and we concur especially in the following concluding words: "In cases of simple hemiplegia in old people, when the intellect may have been comparatively undisturbed, the pathological fact that softening of the brain really does often supervene, has been taken advantage of or confused with the popular idea of the condition, to the prejudice of justice, aiding wrong conceptions and confusing innocence. Testamentary capacity may exist in spite of right-sided hemiplegia with aphasia, but the instant the admission is made that softening may follow upon the extravasation or embolism that caused the apoplexy, the judge and jury receive an erroneous impression that may wreck a home, defraud widows and orphans and divert fortunes from the direction intended by the testator."

PLEA FOR THE PROPOSED ASYLUM FOR THE CHRONIC INSANE. DR. Diller, of Pittsburgh, Pa., in the *Medical and Surgical Reporter* of April 25th, 1891, makes a plea for the proposed asylum for the chronic insane. The doctor, I think, has taken a wrong position in his arguments, for the reason that the new asylum will not accommodate but about one-half of the chronic insane of the State and, moreover, must of necessity, if it is to be self-supporting, select from this class those who are able to work, leaving in the present hospitals the excited or bed-ridden chronics. The class which it will accommodate are those in which there is a possibility of a cure, for, as the late Dr. Kirkbridge said, "incurability is a condition which can be predicated by Omniscience alone." The article states that it must be assumed either that the present system is incapable of improvement or an advance can be made. This is not necessarily the case. The present hospital system is no more perfect than in other States, but the herding together of two thousand unfortunates, doomed to a life-long habitation in a lunatic asylum, without a ray of hope for restoration. Surely this cannot be considered an improvement. There is a moral as well as an economic side to this question which deserves consideration. New York State has given chronic asylums a trial and pronounced them to be a failure. Is not this warning enough?

G. R. T.

THE "POST-GRADUATE CLINICAL CHARTS." These are valuable Clinical Charts, differing somewhat from any we have hitherto seen published and they are in daily use at the Post-Graduate Hospital, New York. Each book keeps the record of one case eight weeks. If required, the book can be taken apart and new leaves inserted. The price is 20 cents each book, \$2.00 per dozen, or \$15.00 per hundred. The credit of preparing these valuable charts is due to Drs. Jo. H. Linsley and Wm. C. Bailey, of the hospital staff. Address orders to Dr. Linsley, Director of Laboratories, 226 East Twentieth Street.



COFFEE; ITS USE AND ABUSE, by I. N. Love, M. D., of St. Louis, President American Medical Editors' Association (1890); Pediatric Section of American Medical Association (1890); Professor Diseases of Children, Clinical Medicine and Hygiene, Marion-Sims College of Medicine, St. Louis, etc.

This is a practical paper from a practical source, on a familiar subject too little discussed by physicians. The paper is timely and we concur in the main in the author's observations, arguments and conclusions. We demur, however, to the final proposition (6). We do not regard its excessive use as being even equal to that of alcohol in excess on the organism. The last word of proposition (6) is evidently a typographical misprint.

THE CENTURY. The Midsummer (August) number of *The Century* will contain an article by Poultney Bigelow on "The First Three Years of the German Emperor's Reign." Mr. Bigelow believes that "since Frederick the great no king of Prussia has understood his business like this emperor," and gives what he considers the secret of the power of William II. with his people. The illustration of Mr. Bigelow's paper will also include views of the palaces at Berlin and Potsdam and portraits of the Emperor and Empress.

LES FONCTIONS DU CERVEAU DOCTRINES DE L'ECOLE DE STRASBOURG DOCTRINES DE L'ECOLE ITALIENNE, par Jules Soury, de la Bibliothèque nationale, Maître de conférences à l'Ecole pratique des Hautes-Etudes, Paris.

LA NEURASTHENIE, EPUISEMENT NERVEUX, par L. Bouveret, Agrégé à la Faculté de Médecine de Lyon Médecin de l'Hôtel-Dieu de Lyon, Paris.

ŒUVRES COMPLETES, de J. M. Charcot, Hémorragie et Ramollissement du Cerveau Métallothérapie et Hypnotisme Electrothérapie, Paris.

Association Neuroses: A Study of the Pathology of Hysterical Joint Affections, Neurasthenia and Allied Forms of Neuro-Mimesis, by Morton Prince, M. D., Physician for Nervous Diseases, Boston City Hospital, O. P. D.

A Knowledge or a Time Requirement. A Plea for a More Rational System of Medical Legislation, by Young H. Bond, M. D., Dean of the Marion-Sims College of Medicine, St. Louis, Mo.

Observations on the Importance of Supplying Deficiencies in the Sugar-Forming Ferments of the Digestive Fluids, with Especial Reference to Glycosuria, by John B. Rice, M. D.

Relations of Refractive Errors and Muscular Defects in Asthenopia or Weak Eyes, Ocular Headache and other Reflex Neuroses, by Joseph A. White, M. D., Richmond, Va.



How Should Girls be Educated? A Public Health Problem for Mothers, Educators and Physicians, by William Warren Potter, M. D., of Buffalo.

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ORIGINAL CONTRIBUTIONS.

**Torquato Tasso; a Psychological Study.**

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IN studying the character of Torquato Tasso\* it is a clear advantage that we have trustworthy accounts of his childhood and that we know something of his ancestors. About the year 1200 A. D., in order to escape the dangers to which open places were exposed in those troublous times, the family of the Tassi went to reside in a *fortalice* in a hill country, in the valley of the Brembo, about five miles from Bergamo. In time they became rich and powerful lords and had a town residence at Bergamo. The Count Giovanni Tasso, who flourished at the end of the thirteenth century, is said to have been the first to establish regular posts. Different members of the family migrated to other countries to extend an institution which the revival of letters and commerce rendered so useful. The Tassi thus became generals of

\* The materials principally used for this sketch are as follows:

"La Vita di Torquato Tasso," scritta dell' Abbate Pierantonio Serassi. In Roma, 1785.

"Vita di Torquato Tasso scritta da Gio. Battista Manso Napolitano." Venice, 1621.

"The Life of Torquato Tasso, with an Historical and Critical Account of His Writings," by John Black, Edinburgh, 1810.

"The Life of Torquato Tasso," by the Rev. R. Milman, London, 1850.

"Della Vita di Torquato Tasso," del Professore G. Zuccala. Milan, 1819.

"Sismondi's Literature of the South of Europe," translated by Roscoe, London, 1846, Vol. I.

the post in Italy, Spain, Flanders and Germany. Serassi enumerates a goodly list of ambassadors, generals and ecclesiastics of high rank who belonged to this illustrious family. One branch founded the princely house of Taxis, in Germany. Torquato's father, Bernardo Tasso, was born at Bergamo, in 1493. Being early left an orphan with two sisters, he had, from his youth upwards, to struggle against the evils of dependence and narrow fortune. Nevertheless, he succeeded in obtaining a learned education at the University of Padua. As a secretary, diplomatist and envoy, Bernardo Tasso led a wandering life in the courts of various Italian princes. He accompanied the Emperor Charles in his expedition to Tunis against Barbarossa, and was present at the battle of Pavia. In 1531 he became secretary to Sanseverino, Prince of Salerno, whose fortunes he followed for twenty-three years.

Besides writing treatises on morals and belles lettres, Bernardo was the author of some beautiful sonnets, lyrics, and other poems, the most pretentious of which was an epic called the "*Amadigi; or the Amadis of Gaul*," but though his verses were well known in his own day they would have been long ago forgotten had it not been for the reflected glory of his great son. After a life of dependence, labor and anxiety, a gleam of prosperity shone on the path of Bernardo. At the age of forty-six he married Portia Rossi, a Neapolitan lady with whom he was promised a large dowry. Bernardo gives a pleasing description of the happiness he now enjoys with his lovely young wife and praises her for her prudent, virtues and amiable disposition. They had three children, one daughter Cornelia, a son who died in infancy, and Torquato, who was born at Sorrento, on the Bay of Naples, 11th of March, 1544. Before his birth his father's unsettled life again began. He was called to accompany the Prince of Salerno, General of the Italian Infantry, to Piedmont, where the Imperialists were defeated by the French at the battle of Cerisoles. Bernardo did not return home to see his infant son till

he was ten months old. After living for two years at Salerno he again left to accompany the Prince to the Imperial Court at Nuremberg to assist him in pleading the case of the people of Naples, who had offered armed resistance against the attempts of the Viceroy, Pedro de Toledo, to introduce the Spanish inquisition. Being treated with coldness and suspicion by the Emperor, Sanseverino left his service for that of the King of France. Bernardo Tasso was sent to Paris to persuade Henry II. to invade Naples ; and Sanseverino, to assist this undertaking, got the Sultan to send a Turkish fleet, which ravaged Calabria and anchored in the Bay of Naples. As these attempts to expel the Spaniards ended in failure, Bernardo went to reside at Rome, living on a pension granted by the exiled Prince of Salerno, which does not seem to have been regularly paid. In the meantime his wife's relations kept her dowry in their possession, and prevented her joining her husband. At last she sought refuge with her daughter in a nunnery at Naples. In the autumn of 1554, Torquato, now ten years of age, was sent to his father at Rome. In some beautiful verses he recalls the kisses bathed with sad tears, and the burning prayers which his mother poured out at parting from her little son whom she was never more to see. The ill-fated lady died sixteen months after, from an illness so sudden and violent that her husband stated his belief that she had been poisoned by her brothers to gain her dower. In a letter to a friend, Bernardo writes :

I bewail the death of that unfortunate young woman, whom I loved more than my own life, but not so much as she deserves. I bewail the cause of her death, which I am myself, because I ought not, through a vain desire of honor and through the affection which I bore the Prince, to have abandoned her and my unfortunate children and the government of my own house, all the more that I was aware that I left her destitute of all counsel and all favor and abandoned by all human aid, at the mercy of my own adverse fortune and in the hands, not of brothers, but of deadly enemies.

In his letters Bernardo often fervently enjoined his

wife to fill the mind of her son with the thoughts of God ; and the early lessons of his mother laid the foundation of that deep and fervent piety which marks the life and writings of Torquato Tasso. He was an unusually precocious child. His friend and biographer, Manso, quotes the statement of an old nurse, that he uttered some words when only six months old, and from early childhood he showed an amount of sense and gravity much beyond his years. In his seventh year he was sent to a school at Naples, kept by the Jesuits and he displayed astonishing ardor in his studies. Torquato Tasso, in a letter, recalls that the Fathers made him take his first Communion when he was scarcely nine, though he was so well grown and his mind showed such signs of maturity that he might be judged to be twelve years, at least.

Torquato on arriving at Rome found his father in bed from an illness which lasted for several months longer. He was living in the house of the Cardinal Este. Though he was often in great straits for money, Bernardo managed to afford his son a liberal education, which was shared by a cousin, Christopher Tasso from Bergamo, who was sent by his father, Giovanni Tasso, to be educated at Rome. Their studies were soon interrupted. Bernardo had been declared a rebel by the Spaniards and his property in Naples confiscated. His wife's relations took advantage of this to retain her dowry, and pretended that the boy Torquato had become implicated in his father's treason by going to join him in Rome. In the autumn of 1556 the approach of the Duke of Alva's bands from the Neapolitan frontier, compelled Bernardo to leave the Papal city and seek refuge in Ravenna, with only two shirts and the manuscript of the "*Amadigi*" in his possession. When sixteen years of age Torquato was sent to study law at the University of Padua, about the same time as his father got the "*Amadigi*" published at Venice. It was dedicated to Philip II., of Spain, in the hopes of gaining forgiveness from that relentless ruler ; but the reception of the work fell much short of the



expectations of the old poet. Wandering from the court of one Italian prince to that of another, Torquato shared in the vicissitudes of his father's life—a mixture of gratified vanity and humiliation, pride and dependence, and poverty in sight of grandeur. He learned, in the bitter words of Dante, how salt is the bread of the stranger. With his precocious intellect and keen sensibilities the distresses amongst which he had been reared could scarcely fail to imbue the mind of the youthful poet with that deep tinge of melancholy which followed him the grave.

Another great poet, Robert Burns, speaking of the depression of spirits with which he was often troubled, observed :

Extreme sensibility, irritated and prejudiced on the gloomy side by a series of misfortunes and disappointments at that period of my existence when the soul is laying in her cargo of ideas for the voyage of life, is, I believe, the principal cause of this unhappy frame of mind.

The poet, Cowper, also, who suffered from melancholia, was frequently heard by his friends to lament the persecution he sustained in his childish years from the cruelty of his school-fellows. The acuteness of his feelings in his childhood rendered these important years miserable years of increasing timidity and depression.

Before Torquato had been a year at the University of Padua Bernardo Tasso received the unwelcome intelligence that his son had been indulging in dreams of poetry, instead of studying law, which he now wished wholly to give up. The old man could testify that poetry was not a profitable calling—at the same time he could not shut his eyes to the beauty of his son's verses, though he never got to think them superior to his own. Torquato had written a romantic poem, relating the exploits of the Paladin Rinaldo, which was published at Venice in 1562, when he was only eighteen years of age. Though the "Rinaldo" is now little read, as many of its finest stanzas and ingenious fictions were afterwards transplanted by its author to his great epic, it at once placed the younger Tasso in the front rank of living Italian poets. It was dedicated to his father's old patron, Luigi, the

Cardinal of Este, who two years afterwards invited Torquato to come to reside with him at Ferrara.

The Cardinal was brother of the reigning Prince Alfonso II., now a man about thirty-two. He had the reputation of being brave and skillful in war, just, temperate and religious, but proud of his ancient pedigree and a hankerer after great alliances, full of punctilio and caprice and implacable in his resentments. Though he was but the ruler of a small principality, he was very rich, kept a splendid court and was an ostentatious patron of literature and art.

Torquato Tasso arrived at Ferrara on the last day of October, 1565, at the very time the duke was putting forth all the gorgeous pageantry of his court to receive his new bride, Barbara, of Austria, the daughter of the Emperor Ferdinand. Tasso was now twenty-one years old, very tall, rather thin, but well proportioned. His fine and expressive face has been often reproduced by the painter and engraver. He had light-brown hair and beard, a fair complexion and blue eyes. The orbits appear unusually large, giving a fullness to the eye. The head was large, the forehead high, sloping towards the top, which was thinly covered with hair. On looking at the mask, which was taken after death, we note how much of the head is in front of the ear in proportion to that behind. He was short-sighted and, like Swedenborg, he stammered slightly in his speech and was apt to repeat the last word. He was very skillful at fencing, riding, tilting and hunting. His expression had that grave and melancholy cast which is often so attractive to imaginative women. The great force and energy of his mind and the tenacity of his memory made up for the desultory character of his education. He was learned in the ancient tongues and versed in philosophy and mathematics. Like Milton, he was especially fond of the writings of Plato. Tasso had already seen most of the famous cities and the finest scenery of Italy and had conversed with many distinguished men. He confesses to have been too indul-

gent in pleasures and though temperate in eating, was fond of good wines. But to Tasso's powerful mind the love of glory was ever stronger than the love of pleasure, and as he became older he was remarkable for chastity and temperance. He was open and unguarded in his speech, and had a keen sense of injustice, too keen, indeed, for the court of a petty Italian State in a corrupt time. Eager for sympathy and covetous of praise he was proud and irritable, but forgiving, not less so from natural temperament than from his deeply religious feelings. Having obtained unwonted honor very early in life, Tasso, himself, said that he "could not live in a city where all the nobility did not either yield him the first place, or at least content themselves with a perfect equality in all exterior marks of honor," and, again, that he "could not endure being denied the first place in society, being of noble birth, and, besides, Tasso."

He was kindly received by the duke and admitted to his society and to that of his sisters, Lucretia and Leonora. These ladies were fond of poetry and the conversation of literary men. To both of them Tasso paid florid compliments, but it was to Leonora that his verses were inspired by real affection. How far the esteem and friendship with which the Princess Leonora regarded the young poet passed into a warmer affection can only be guessed. In Goethe's beautiful drama, "*Torquato Tasso*," the sentimental nature of their relations is portrayed in a manner which at any rate is not inconsistent with historical facts. That admiration for the princess, now thirty years old, ripened into real love on Tasso's side does not seem to me a matter of doubt. There is no proof however that it passed beyond a deep sentimental passion, kept in restraint by the rank and state of the princess and revealing itself only through fervid poetical compliments and those delicate attentions which constitute an unspoken language easily read by those who have mutual sympathy. The line :

Much he desires, hopes little, nothing claims,

Seems to express the feelings of the poet towards Leonora.

Amidst the praises of the court Tasso went on writing the "Jerusalem Delivered" and composed the "Aminta," a pastoral drama, perhaps the best of its kind in the Italian language, which was acted at Ferrara in 1567.

About two years after the long and anxious life of his father, Bernardo Tasso, came to an end. He died at Ostia, of which he had been made governor by the Duke of Mantua.

In 1571 the Cardinal of Este took Torquato with him to France, where he spent a year at the court of Charles IX. and met with a flattering reception.

We know that he left Ferrara in debt, and though Charles IX. affected to be a patron of poetry, Tasso is said to have quitted France in the same suit that he came. For some reason not clearly known he had lost the favor of the cardinal. Tasso himself supposed that it was owing to the zealous way in which he (the poet) denounced the Huguenots, who were being treated with marked favor at court. Perhaps the cardinal knew why and did not choose to tell the poet that they were being flattered and fêted while preparations were going on for the eve of St. Bartholomew. And so when Torquato returned to Ferrara he entered into the immediate service of the Prince Alfonso, who, amongst other ways of providing for the poet, made him a professor of geometry, with the proviso that he should only lecture on festival days. For a time he lived happily at Ferrara, enjoying the friendship of the duke, storing all his thoughts and hiving all his experience and learning for the poem which was to place him by the side of Virgil. The "Jerusalem Delivered" was finished in 1575. Tasso, who had by this time tired of the dependence, jealousies and intrigues of a petty court, intended to get it published and then go to reside at Rome.

Being very fastidious in giving the utmost polish to his verses Tasso sent his manuscripts to Rome for the correction of divers professors of rhetoric and such like pedants who derived their tastes for poetry from reading Aristotle. Their objections and criticisms vexed and bewildered the

sensitive poet, who could not refrain from replying to them; and even went to Rome to confer with his censors. The publication of the poem was thus delayed for a year, during which he was haunted with fears that the work would be a failure, that his MSS. would be lost, or that a pirated edition would be brought out. At the same time he suffered from severe attacks of quartan ague, accompanied by dreadful headaches, which reduced him to such a state of languor that he could not go on with his literary work.

If melancholy be produced from the conjunction of irritation and debility never was there an abode so adapted for the procreation of that monster as the exhausted and tortured brain of Torquato.\*

That a man of his merit should have had enemies at court may be taken for granted, and that some of his suspicions were founded on real attempts to annoy and injure him may be safely believed. His actions, now scarcely under the control of reason, were such as would surprise and alienate his friends and increase the exasperation of his enemies. Serassi says that at this time Tasso was held in Ferrara by his admiration for the beautiful Eleonora, Countess of Scandiano. In a sonnet he recalls how her full and rosy lips had for a moment touched his, leaving nothing behind but love, breathing flame and poison. In a pretty poem addressed to Olympia, the Countess's waiting maid, Torquato tells her that, as he cannot dare to raise his hopes to the lady, he does not disdain to submit to the empire of the handmaid. Thus the Princess of Este did not reign alone over his heart. The state of Tasso's mind at this time reminds us of that of Jean Jacques Rousseau, who was always complaining of being persecuted and who saw in the most casual occurrences indications of some design to injure him and imagined that expressions of admiration or attachment were either ironical or feigned, to betray him. Tasso complained of a false friend whom he had allowed the use of one of his rooms, who brought a locksmith to

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\* Black, Vol. I., page 222.



get access to his secret papers. As Tasso avers he found out the blacksmith, it looks like as if the story were true; but when he lets us know that his treacherous friend made use of this artifice to get possession of the trivial objections of some of his critics at Rome on the "Jerusalem Delivered," we begin to wonder. He listened to an offer from the Duke of Tuscany, the rival of Alfonso, without accepting it, and then applied to be made historiographer to the House of Este; and when this was granted he was harassed by the thought that it would be impossible to write a truthful history without offending his patron, and he regretted that this new office would prevent him going to Rome.

He troubled his friends with letters asking them whether he had offended them or what the cause of offense was, and wrote to the Marquis of Monte asking for a faithful servant who would not allow himself to be suborned to let his papers be read by his enemies. He entreated that this servant should be threatened with severe punishment if he behaved improperly. "Tell him also," he adds, "that my word will be taken with regard to the propriety or impropriety of his conduct, for judicial proofs cannot at this place and in such a case be expected." He concludes the letter by saying: "If this favor be not granted, I shall be at last constrained to leave a very affectionate master, or at least to change my residence." Doubts troubled his mind about various points in the creed, the creation of the world out of nothing, the incarnation, the immortality of the soul, and eternal punishment. He went and accused himself to the Inquisition at Balagna who tried to soothe him, saying that his doubts were but the vapors of a heated imagination. The Inquisition willingly absolved him, but Tasso doubted whether the absolution was complete because it had not been accompanied by some formalities, and returned to them again. About this time the poet was insulted by a former friend and retaliated with a blow. A little after the man with his brothers fell upon Tasso with naked swords, in the pub-

lic square; but the poet, drawing his own weapon, defended himself with such prowess that his assailants fled; hence, it became a saying in Ferrara that "none equaled Torquato either with the pen or the sword." His unworthy adversaries left the principality. Though the duke took Tasso's part, the precautions he ordered to prevent the poet again getting into such danger only increased his suspicions. It is clear that the family of Este, if they had any anger of or jealousy against him, forgot their resentments in his distress, and did much to soothe and beguile away the melancholy of the poet. The duke left him for some time at his beautiful palace of Belregardo. The Princess Leonora did so likewise at her country seat; the Duke of Urbino, who had married the Princess Lucretia, also entertained him with watchful hospitality. But his melancholy and suspicions, dispelled for a time, again returned. He himself writes: "Something, I do not know what, is whirling in my mind." At last it came near to actual violence. The event is thus described by Maffeo Veniero, a Venetian, in a letter to the Grand Duke of Tuscany, dated 18th June, 1577:

Yesterday evening Tasso was imprisoned for having, in the chamber of the Duchess of Urbino drawn a knife upon a servant, but he was rather arrested on account of his disorder and for the sake of curing him than in order to punish him. He believes himself guilty of the sin of heresy, and fears being poisoned. This arises, I believe, from a melancholic condition of the blood pent in at the heart and fuming to the brain, a miserable case for a man of his worth and goodness

This was in accordance with the fanciful pathology of the time: melancholy depended upon humors in the blood, which required to be purged away. To this the poet had an extreme aversion. His letters are full of allusions to the remonstrances of his friends that he should carry out the treatment recommended by the doctors. When in a docile mood he always promises *purgarsi*. The prince sent him to the care of the Brothers of St. Francis, with whom he abode for some days—he even talked of becoming a friar. But, one day, July 20th, overcome with his

fears, suspicions, and disgusts, he suddenly fled from Ferrara. Traveling by lonely, unfrequented paths, he made his way on foot to the house of his sister at Sorrento. Without the consent of her father, Cornelia had been married by her mother's relations to a gentleman of Sorrento, named Versali, and was now a widow with several children. Tasso appeared in the dress of a shepherd, and feigning to be sent by her brother, described his own miseries in such pathetic language that she fainted away. This banished all doubt of his sister's affection, and in her care and tenderness his harassed mind found the repose he so much needed. As they feared he might be proscribed for his father's rebellion, Cornelia gave out that her new guest was a cousin from Bergamo. With her two boys the poet wandered about that delightful land, revisiting the scenes of his childhood. It is clear his mental condition was still the cause of solicitude, for Cornelia consulted the physicians about her brother.\* Calm, however, returned and then Torquato began to tire of a quiet life with a widow and her children and to long for the brilliant court of Ferrara. He wrote to the duke and his sisters, but only received tardy and cold replies. His desire to return was heightened by anxiety about the manuscripts which he had left at Ferrara. He went to Rome, where he resided for some months at the house of the Ferrarese envoy. Against the dissuasive advice of his friends, Tasso now prevailed upon the Cardinal of Albano to petition to be again received into Alfonso's favor. We have the text of a dispatch, dated† 22nd March, 1578, in which the duke writes:

If he thinks of returning to us, we are contented to receive him, but it is necessary in the first place that he should recognize that he is full of melancholy humor and that these suspicions of hatred and persecution which he has said to have met with here, come from no other reason than the said humor. Amongst other proofs of this he should

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\* "*Serassi Vita*," Tomo II., page 256.

† "*Serassi Vita*," Tomo II., page 260. In Serassi's two quartos many original documents are reproduced, which the author found in the archives of the Este family, or collected from other sources.

recognize the falsity of his imagination that we wished to make him die, although we have always been pleased to see him and to show our fondness for him. He may believe that if we had had such a fancy it would have been easy enough to have put it in execution and that he should make up his mind if he wishes to come here, to consent to let himself be treated by the physicians to cure himself of his humor.

The duke goes on to say that he would not blame Tasso for what he had said in times past, but if he would not allow himself to be cured, he should cause him to be expelled from his State. Tasso showed his acceptance of those humiliating terms by returning to Ferrara, where he was kindly received. In a short time his disquietude returned. He complained that the prince wanted to lead him from his studies to make him a mere epicurean and accuses himself of having injured his health by excesses in wine, for which he gave the absurd reasons that he wished to gain the favor of the duke thereby and to accustom himself to despise health and pleasure, recollecting that it was the opinion of some of the best philosophers that vigorous health is dangerous to virtue, as it assists the body to tyrannize over the mind.\*

Tasso, it will be perceived, was laboring under the delirium of persecution, and with his acute mind ever on the watch, he soon noticed that some people thought him insane. Then it was a real grievance which haunted him night and day, that the prince would not give up the manuscripts of his poems, though he had repeatedly promised to do so. The prince may have thought that, in his actual state of mind, Tasso was not the best guardian of those valuable writings. He was especially solicitous of the "Jerusalem Delivered," which contained some lofty praises of the House of Este. Perhaps he also feared that the distracted poet contemplated making great changes which were not at all likely to be improvements. Viewed in this way, it is probable that the world has to thank Alfonso for preserving the manuscript of the "Jerusalem Delivered." Though Tasso's mind had lost its fine balance, he still continued to

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\* Black, *Life*, Vol. II., page 21. "Tasso, *Oper.*," Vol. IX., page 189.

write some beautiful lyrical effusions and sonnets, but his fears and suspicions came out in his letters to his friends. One day he abruptly left Ferrara and set out on foot to seek refuge from his father's old patron, the Duke of Mantua. Here he was not unkindly received, but, as the duke's daughter was to be married to Prince Alfonso, now a widower for the second time, he did not care to offend the Court of Ferrara; and Tasso soon found his position uneasy, especially as he noticed that some persons still suspected him of being insane. Having raised a little money by selling some valuables, amongst others a ruby ring given him by the Princess Leonora, he betook himself to Padua and thence to Venice, from which city Veniero again writes about him to the Grand Duke of Tuscany (12th July, 1578):

Tasso is here, unquiet in mind, and although it cannot be said that his intellect is sound, on the whole he rather shows signs of affliction than of madness.

Veniero goes on to say that the poet desired some provision with the duke, where he might live in a retired manner and busy himself with his poems.

We do not know if Tasso waited for an answer to this petition, for finding hearts hardened against him at Venice, he went away to the Duke of Urbino, by whom he was most kindly received. In his letter Torquato congratulates himself upon having now found a pleasant refuge, and the physicians having counseled a cautery for the leg, one of the ladies of the court put on the bandages with her own soft hands. But becoming again suspicious of plots played against him by the Duke of Ferrara, the restless poet, without telling anyone, took the road to Turin to claim the protection of the Duke of Savoy. Worn and travel-stained he arrived on foot at the gate of Turin. He was denied admittance by the guards, but, fortunately, writes his friend Ingegneri,\* a Venetian:

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\* Black, Vol. II., page 45.



In returning from hearing Mass, said by the Capuchins, I met and introduced him into the city, having first informed the guards of his noble qualities, which, though he was in disorder and on foot, were not quite concealed under so low a fortune.

In Turin Tasso was hospitably entertained by a former friend, the Marquis Philip of Este, General of Cavalry to the Duke of Savoy. The duke himself, who was anxious to have so distinguished a poet in his service, promised him appointments equal in value to what he had held at Ferrara, and also engaged to get his manuscripts restored to him. Under this courteous treatment Tasso's mind seems to have recovered its cheerful tone and in a letter to the Cardinal Albano he asks pardon for having mistrusted him: "Since I have," he writes, "without distinction, suspected everyone, I cannot persuade myself that your lordship will appropriate an offence that is common." The cardinal replies in a soothing and forgiving tone that no one had ever wished to hurt him in any way, but everyone loved him and desired that he might live.

In a little time the old unrest returns. On hearing of the preparation for the marriage of Alfonso with the daughter of the Duke of Mantua, Tasso intimated his desire of again returning to the court; and in spite of the dissuasions of the Marquis of Este, he set out for Ferrara, arriving on the 21st of February, 1579, the day before the marriage and finds everyone busy. His friends slighted him and his enemies treated him with indignity. Unable to obtain an audience of Alfonso, or of the princesses, he indulged in the most violent language against the duke, regretted he had ever entered into his service, and took back the praises which he had heaped upon him. It is said that Alfonso had been piqued at hearing of Tasso's advances to the Duke of Tuscany, for he hated the Medici, with whom he had a long-standing dispute about precedence.

Whether he also took umbrage at the supposed attachment of Tasso to his sister Leonora can only be guessed. There are allusions in Tasso's letters which seem to refer

to a love which was in some degree returned, and a prayer to be saved from the consequences of what in his frenzy he had said and done in the matter of love. The tradition of the poet having offended Alfonso by kissing the princess in public, traced back to some unnamed contemporary,\* does not seem to be trustworthy. A story was widely diffused in Italy about the time that the poet had become insane through his love for the princess. This does not seem to me likely. Their acquaintance had now lasted fourteen years, and the lady had reached her forty-second birthday. Passion cannot be kept so long at a fervent heat. This love which finds its expression in carefully-corrected odes and sonnets never breaks hearts; and in the poet's breast the love of fame seemed to be by far the strongest passion. Whatever the cause or combination of causes might be, on Tasso's provoking speeches being reported to the duke, he ordered the unfortunate poet to be taken to the Hospital of St. Anne, a building in the city, part of which was used for the confinement of lunatics. Tasso entered this dreary abode about the middle of March, 1579, nearly at the same time as Camoens, the epic poet of Portugal, finished his life of disappointment and poverty in an hospital at Lisbon.

Some writers like Sismondi affirm that this imprisonment was the cause instead of being the consequence of Tasso's derangement; and as Sismondi in his rapid survey has only to give his opinion in short and general terms, no facts appear to discredit his statement. On the other hand, when Mr. Milman, in a biography filling two volumes, tries to show that the poet was imprisoned not because he was mentally deranged, but in order to gratify the vindictive pride of the Prince of Ferrara, any reader acquainted with insanity must perceive that the biographer fails to prove his case, for he is too honest to suppress or discolor the main facts of the story. On the other hand, the "Life of Tasso," written by Dr. Black, though prolix and full of digressions, is characterized by superior

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\* "Zuccala, Vita," page 173.

judgment and unfailing accuracy. Serassi, in his anxiety to please the House of Este, no doubt showed a marked desire to heap up proofs of Tasso's insanity; nevertheless, it does not appear that he has done the poet any real injustice.

It might fairly be held that, if the duke believed that Tasso was mad, he did no more than his duty in sending him to a place where he would be beyond the risk of injury to himself and others and would be subjected to the treatment of the physicians. It may also be said that, if Alfonso thought Tasso to be insane, he should not have been irritated against him. That irritation did exist, is likely enough, and it not unfrequently happens that people show indignation against those who have deeply offended them, while at the same time they revile them as being out of their senses. In fact it requires a good deal of experience and a logical frame of mind for a man to get past all anger against the provoking actions of the insane. Moreover, Tasso's derangement was not of that pervading character which seems to exclude all idea of responsibility. He continued to write eloquently both in prose and in verse and to defend his most absurd actions by plausible reasonings.

At any rate, Tasso's mental condition did not prevent him realizing the extent of his misfortune. In pathetic terms he bewailed the misery, dirt and squalor of his sad abode, the harshness and neglect with which he was treated, and the awful solitude of his cell. Solitude, he says, had been his cruel enemy, from whom in his best days he was wont to flee by seeking company even at untimely hours. He adds:

Sure am I that, if she who so little has corresponded to my attachment, if she saw me in such a state and in such affliction, she would have some compassion on me.\*

He addressed petitions, both in prose and verse, to the duke, to gain his liberty and sent letters to his different friends in Italy, asking for their intercession. Tasso has

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\* Black, Vol. II., page 59.

conferred both fame and infamy upon Alfonso, of Este. The praises which he lavishes upon him are as immortal as the great epic, but the duke is remembered by posterity as the jailor as well as the patron of one of the most illustrious poets of modern times. It may be said of Alfonso that the information on which he acted had probably received a heightened coloring and that he had advisers, some of whom were the poet's enemies. Nevertheless, granting that the duke deemed it necessary to subject Tasso to what was then thought wise medical treatment, some better lodging than a common hospital should have been found for so distinguished a guest, and some more watchful care should have been taken to shield him from neglect and indignity. We ought, however, to remember that in these times it was thought that severity was useful towards the cure of insanity. Shakspeare makes Rosalind say in "As You Like It:—"

Love is merely a madness and, I tell you, deserves as well a dark house and a whip, as madmen do: and the reason why they are not so punished and cured is that the lunacy is so ordinary that the whippers are in love, too.

The statement, so often repeated, that the poet's insanity was a malicious invention of the Macchiavellian Prince of Ferrara, is quite untenable. The calm, skeptical Michael Montaigne, who visited Tasso in November, 1580, after returning to France, wrote:\*

J' eus plus de dépit encore que de compassion de le voir à Ferrare en si piteux estat, survivant à soy mesme, nescognoissant et soy et ses ouvrages.

In several letters Tasso himself describes some symptoms, the import of which no one acquainted with insanity can fail to read.

In a letter to a friend, dated October 18th, 1581† Tasso writes that the disturbances which he suffers in study and in writing are of two sorts, human and diabolical:

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\* "Essais," Liv. II., Chapter 12.

† Quoted by Black, Vol. II., page 101.

The human are laughter full of derision and shouts of men and youths, but especially of women; and various cries of animals, which are harassed by men to disquiet me—and noises of things inanimate, which are moved by the hands of men. The diabolical are enchantments and witchcraft, but of the enchantments I am not certain, as the rats, of which the chamber is full and which seem to me possessed of the devil, may naturally occasion the noise they do and not merely by diabolical art. Some other sounds, also, which I hear may be referred as to their origin to human artifice. But, whatever may be thought of the enchantments, I hold it to be certain that I have been bewitched and that the operations of the witchcraft are very powerful. For, whenever I take a book to study or a pen to write, I hear the sound of voices in my ear, in which I can, as it were, distinguish the names of Pavolo, of Giacomo, of Girolama, of Francesco; of Fulvio and others, who, perhaps, are malignant persons and envious of my quiet. And if they be not such, they would act courteously if they would endeavor to remove the bad opinion of them which I have conceived on account of their evil arts. At that time, also, more than any other, many vapors ascend to my head, although very often I write before eating, so that my ideas are exceedingly disturbed.

In another letter to the same friend, Cataneo, written in 1586, he says that the Folletto or sprite has carried off one of Cataneo's letters because he (the Folletto) was spoken of in it.

This, goes on Tasso, is one of those wonders which I have frequently seen in the hospital. Hence, I am certain that they are the operations of some magician, of which indeed I have many proofs, but especially from a loaf taken visibly from before my eyes, an hour before sunset and a plate of fruit, which vanished one day when I was visited by that Polish youth who deserves such admiration.

After some speculations on spiritual agencies and after explaining that he was never either a magician or a Lutheran, Tasso thus proceeds:

Know then, that, in addition to the wonders of the Folletto, which I may reserve for our correspondence at some future period, I have many nocturnal alarms. For, even when awake, I have seemed to behold small flames in the air and sometimes my eyes sparkle in such a manner that I dread the loss of sight and I have visibly seen sparks issue from them. I have seen also in the middle of the tent bed, shades of rats, which, by natural reason, could not be there; I have heard frightful noises and often in my ears are the sounds of hissing, singing, ringing of bells and sounds like that of a clock. Often there is a beating for an hour and sometimes, in my sleep, it seems as if a horse threw himself upon me and I have afterwards found myself languid and fatigued. I



have dreaded the following sickness: apoplexy and blindness; I have had headaches, but not excessive; pains, but not very violent, of the intestines, the side, the thighs and legs; I have been weakened by vomiting, dysentery and fever. Amidst so many terrors and pains, there appeared to me, in the air, the image of the Glorious Virgin, with her Son in her arms, sphered in a circle of colored vapors, so that I ought by no means to despair of her grace. And though this might easily be a phantasy, because I am phrenetic, disturbed by various phantasms and full of infinite melancholy; nevertheless, by the grace of God, I can sometimes *cohibere assensum* (withhold my assent), which, as Cicero remarks, being the operation of a sound mind, I am inclined to believe it was a miracle of the Virgin.

He was obliged to send away his money and valuables to get them out of the reach of the sprite, who also abstracted his keys and turned over his books and papers. No doubt thievish attendants took advantage of his simplicity. Tasso's mind at this time seems to have hovered on the boundary line of sanity; sometimes it crossed into the realms of insanity, and sometimes it returned. He noticed how much his memory had become weakened, and in a letter to Jerome Mercuriale, Professor of Medicine at Padua, dated in the summer of 1583, he writes:\*

I have for some years been ill of a disease which I do not understand. Nevertheless, I am sure that I have been bewitched. Whatever may be the cause of my malady, the following are the effects: A gnawing of the intestine with a little bloody flux, noises in the ears and in the head, sometimes so strong as if there were a clock in it, continual images of various things all disagreeable which disturbs me so much that I cannot apply my mind to study for a few minutes. The more I try to keep myself attentive the more I am distracted by nervous imaginations and sometimes by fits of rage which move me according to the phantasies which arise within me. Besides this, always after eating, my head fumes beyond measure and becomes hot, and in every sound my fancy seems to hear some human voice, so that it appears to me that inanimate things speak.

He begs the learned doctor to send him some medicines or his advice. Mercuriale recommended Tasso to have a cautery in the leg, to abstain wholly from wine, and to take broth. He promised shortly to send a receipt which would sweeten the blood and allay the

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\* Serassi, page 324.

fumes which mounted to the head. These recommendations the poet declares in a letter to a friend to be quite insupportable ; as already observed he never was very obedient to the prescriptions of the physicians. He still continued to write verses and to compose dialogues in prose, many of which were published while he was still in confinement. After he had been about a year in St. Anne's, an imperfect and incorrect version of the "Jerusalem Delivered" was published at Venice, by a man who had got copies of some of the manuscripts which the author had too freely sent about for revision. It was a sad trial for the helpless poet that after all his anxious and fastidious delays his beautiful work should appear in such a truncated shape. His friends, however, came to his assistance, and a more correct edition was soon published. The literary world received the work with delight, and before a year was over, six editions of the "Jerusalem Delivered" had come from the printing presses of Italy, and one had appeared in France. Thus others enriched themselves from the work of the poor poet. Yet, a reflected light from his brilliant work found its way into his abode. Letters of praise came to him from all parts of Christendom. His old friends became more eager to help him, and enthusiastic admirers sought him in his confinement, some of whom declared him quite sane. The Duke of Ferrara felt constrained to give better quarters to his illustrious captive, and Tasso was allowed now and then to leave the hospital to spend the day amongst sympathetic friends. The Emperor, the Pope, the Duke of Mantua, the Magistrates of Bergamo, and numerous other dignitaries sent representations to the Duke of Ferrara, interceding for the poet. One cannot avoid accusing Alfonso of perverse obstinacy in refusing at least a trial of freedom to his former friend, whose health was suffering from so dismal a confinement. The Princess Leonora had died about two years after Tasso was committed to St. Anne's. It is likely that the duke felt offended at Tasso's continual appeals to other

princes to obtain deliverance for him. His petitions to Alfonso himself were sometimes imprudently worded. During seven years and two months the unfortunate poet was confined in the Hospital of St. Anne. He was only set free on a formal engagement of the Duke of Mantua to become guardian of the poet. This seems to show that Alfonso really believed that Tasso had not ceased to be insane, otherwise, he must have been aware that the Duke of Mantua would have been justified in at once setting him free from all restrictions.

Tasso was indeed affected with that form of insanity which is now called *paranoia*, characterized by a slow evolution of mental derangement, as shown by delusions of suspicion and persecution, hallucinations, and perversion of judgment. Torquato inherited the fine mental gifts of the Tassi, and in his tastes and capacities was the true son of Bernardo, yet we fail to find any hereditary neurosis in his family. But our knowledge of the history of his mother's relations is incomplete and it is likely that the anxiety which Portia suffered before his birth and the griefs of his childhood helped the development of the mental derangement. The malady seems to have been at first of a more acute form and afterwards to have toned down, as in the case of Swedenborg.

In *paranoia* the intellectual faculties are less affected than the others, and in Tasso's case the submergence of the intellect seems never to have been marked, but after his release from St. Anne's the mind of Tasso still retained much of its unusual power. He was not the Tasso who wrote the "*Aminta*" or the "*Jerusalem Delivered*." None of his succeeding works have the same impress of immortal genius. His tragedy, the "*Torrismondo*," was in a great part written before his mind was affected and in the continuation there was a distinct falling off. He left the hospital weakened in health and broken in spirit. The keen delight of again entering the beautiful world soon passed away. He complained that he was still phrenetic and consulted a physician, who

gave him pills to strengthen his memory. His conduct was so far reasonable that no farther attempt was ever made to deprive him of his liberty, but he never quite recovered his mental balance. Though kindly entertained by the Duke of Mantua he was discontented with the watch kept over him and slipped away one day to take the pilgrimage to Loretto in hopes of thus obtaining the intercession of the Virgin for his complete recovery. An admirer going the same way with horses and servants takes up the poet toiling along the road on foot and in need of money.

Tasso's future life was a most unhappy one, entertained and caressed for a few weeks by dukes and cardinals and wealthy noblemen, the center of admiring companies, they either tired of him or he tired of them, and then he began again his wanderings, lodging in monasteries, inns, cottages—anywhere.

Sometimes he was reduced to actual beggary. He was received for charity in an hospital founded at Rome by the Tassi of Bergamo, who little thought at the time that it would give shelter to the greatest of their name. There was much sympathy for the poet, but it was difficult so to direct it that it should provide for his wants. He was careless of money, was suspicious of control and easily took offense at patronage, though he did not possess the prudence and self-control needful to secure for himself an independent position.

Continued misfortune insensibly depresses the proudest, and Torquato's heaven-born gift of song was sometimes prostituted to give venal praises to unworthy men in high places, or to discharge debts which should have been paid in vulgar coin.

Going to Naples in 1588 to commence a weary lawsuit for his share of his mother's dowry and his father's forfeited property, Tasso was introduced to John Battista Manso, Marquis of Villa, who had the singular fortune of being the friend of the two greatest epic poets of modern times, Tasso and Milton. Of all Tasso's friends and

patrons Manso seemed to have been the most constant. In this sketch we have principally dwelt upon the poet's mental affection, and the following passage taken from Manso's "Life of Tasso," will serve to show that above two years after leaving the Hospital of St. Anne's he still remained subject to delusions.

In a letter written at the time to the Count of Poleno, Manso\* describes how Signor Torquato spends his time. He was a great hunter, loved to hear music and singing and to listen to the *improvisatori* and was fond of dancing. Sometimes, continues Manso, we sit conversing by the fire and often we have fallen into discourse about that spirit which, as he says, appears to him. Manso argued that this was a mere vision, the creation of his fancy, to which Tasso replied that these apparitions had appeared to him for a long time and always kept up the same appearance. In his many and long conversations with this spirit he had learned things which he had never heard nor read nor any other man had known; hence, he concluded that this was a real apparition of some spirit who had assumed a sensible appearance. Manso still continued to argue against this belief. At last Tasso said :

Since I cannot persuade you with reasons, I shall convince you by experience and shall cause you to see that spirit with your own eyes in whom you will not believe from my words.

Manso accepted this offer, and the following day, as the two friends were sitting near the fire, Tasso turned his eyes towards a window and held them for a good while so fixed that he did not answer when called. At last he said :

"Behold, my friend, the spirit which has courteously come to speak with me. Look at him and you will see the truth of my words."

"I turned my eyes thither immediately," says Manso, "but could see nothing save the rays of the sun which entered the chamber through the window-panes."

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\* Vita, p. 139.



Then Tasso entered into lofty reasonings with this mysterious something. Manso heard nothing but his friend's voice, although he could guess from what Torquato said of what nature were the replies of the spirit. He did not dare to interrupt them nor ask Tasso about the spirit. At last the unseen visitor seemed to have departed, when Tasso turned to his friend, saying: "Now, from this day your doubts must have disappeared."

"On the contrary," replied Manso, "they are increased, because I have heard many wonderful things but have seen nothing of what you have promised in order to put an end to my doubts."

Tasso, smiling, answered: "You have seen and heard more of him than perhaps"—and here he stopped.

This reminds one of Swedenborg.

In all the changes of his checkered life Tasso remained an unwearied student and writer of books. His collected works fill twelve volumes quarto. One of the strangest of his literary undertakings was an entirely new poem, "*La Gerusalemme Conquistata*," the "*Jerusalem Conquered*," written in accordance with the rules of Aristotle and giving due heed to the censures of critics, which had so deeply troubled Tasso's mind. This new poem he thought would supersede the "*Jerusalem Delivered*," but though from the reputation of the author this production of his later years attracted some notice at the time, it has long ceased to be read.

It would seem as if better days were in store for Torquato Tasso. The Pope, Clement VIII., promised him a pension and the authorities at Naples engaged to give him an annuity of two hundred ducats in consideration of his legal claims. It was also announced that he should be publicly crowned with laurel at Rome, as Petrarch had been two hundred and fifty-four years before, but Tasso had a foreboding that his end was drawing near. He quoted the verse of Seneca:

*Magnifica verba mors prope admota exequit.*

He fell ill of a fever in the Monastery of St. Onofrio where he was dwelling. One of his last requests to the Cardinal Cynthio was that he should collect all the copies of the "Jerusalem Delivered," the most imperfect of his works, and commit them to the flames. He urged his request with so much earnestness that the Cardinal left him in the belief that he would endeavor to carry out this project. It is said that Virgil left orders that the "Æneid" should be burned and, at any rate, this was possible. Augustus might have been able to seize upon all the existing manuscripts of the "Æneid," but how could any living man succeed in getting into his possession all the copies of a book of which twenty editions, at least, had been already printed, and which were scattered over the whole world? Learning that his end was near, Tasso acknowledged the goodness of God who was at last pleased to bring him safe into port after so long a storm. He died on the 25th of April, 1595, in the fifty-second year of his age. His tomb is still to be seen in the Church of St. Onofrio.

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# TRAUMATIC NEUROSES.\*

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## REVIEW OF THE PRESENT LITERATURE.

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By GUISEPPE SEPPILLI, of Imola, Italy.

IN 1875, the English surgeon, Erichsen, in an important work on spinal concussion, described in a masterly way a group of cases, in which, after a traumatic cause, there arose disturbances of the nervous system, for which anatomical examination failed to show any appreciable lesions that might account for the genesis of the morbid phenomena.

Subsequent observations, especially those by surgeons, confirmed the truthfulness of this assertion, by demonstrating that although traumatic nervous affections are sometimes the consequence of real and very distinct anatomical lesions, yet at other times the finding is negative, at least to our present means of research, and in this event they must be considered as of a dynamic or functional nature.

For some time past the neuropathies belonging to this second category have acquired a special importance in relation to the scientific and practical questions to which they have given origin, as is proved by the innumerable works which have been published concerning them by physicians in all countries and by the most distinguished neurologists of the present time.

In view of the importance of the subject we shall engage in this review by taking into more special examination the symptomatology and the pathogenesis of the traumatic neuroses.

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\* Translated by JOSEPH WORKMAN, M. D., of Toronto, Canada, from *La Revista Sperimentale di Freniatria, etc.*, Fascicolo, January 11th, 1891.

## I.

In the first place we shall speak of the hysterotraumatic paralysis which Charcot has so ably described.

In hysterical subjects there may be exhibited a paralysis in the limbs after an injury produced by a violent stroke, by a fall, etc., etc.

The same fact is sometimes observed in persons who had not in the past presented any signs (at least manifest) of hysteria, by reason of which the paralysis, in this case, represents the first symptom of the hysteric neurosis which had remained latent up to the moment of the injury.

The characteristics of hysterotraumatic paralysees are the following:

*a.*—The injured limb presents a flaccid motor paralysis: it is in a state of complete laxity. It does not show the least rigidity nor contracture. As regards the extent of the paralysis, it is almost always seen to be limited to one limb, usually the upper as this is more exposed to injuries. It is only seldom that the paralysis assumes the hemiplegic or paraplegic form. Sometimes it affects but a part of the limb, *e. g.*, the hand alone.

*b.*—In the paralyzed limb sensibility in all its forms is abolished, both in the superficial and the deep parts. Tactile, thermic and dolorific impressions are utterly unfelt. The patient does not feel any sensation from imposition on the paralyzed parts of movements of torsion and distension, or from placing them in varied positions. Faradization, even when strong, of the nerves and muscles, though it provokes contraction, yet it is unfelt.

The line of boundary between the paralyzed anæsthetic part and the sensible sane part is characteristic. This fact was first stated by Charcot, who observed it in several cases and regarded it as the most important quasi-pathognomonic character of paralysis of an hysteric nature. In fact, whenever the paralysis occupies all the upper limb (shoulder, arm and forearm), with exception

of the hand, it is seen that the limit of the anæsthesia, below, is denoted on the back of the hand by a line perpendicular to the great axis of the limb, at some centimeters above the metacarpo-phalangeal articulation, but on the face of the hand this limit is represented by a line parallel to the bend of the fist and situated about a centimeter below this. The anæsthesia above includes all the shoulder, at which it is limited by a circular line which forms a plane almost vertical, passing through the axilla and extending a little above the subclavicular forwards and over the external third of the scapula backwards.

Let us take, instead, the case of a paralysis limited to the hand and fist (? pugno). Here the anæsthesia reaches to a few centimeters below the elbow and its limit is indicated by a circular line perpendicular to the axis of the limb.

If the paralysis affects the whole of a lower limb the anæsthesia is circumscribed above by a line which in front follows the inguinal fold, and it follows backwards the insertion (?) of the gluteal muscles, so that in cases of paraplegia, the two lines, one for each side, in facing each other leave a central space in the form of a V, which corresponds to the sacrum.

The cutaneous anæsthesia, as is seen, does not, in hystero-traumatic paralyzes, follow the anatomical distribution of the peripheral nerves. This is the chief character which distinguishes it from the organic anæsthesias.

c.—The muscles paralyzed do not, even after a long time, become subject to atrophy nor to modifications in either galvanic or faradic reaction. The skin presents no trophic disorders. The tendon reflexes are conserved, but they often seem to be diminished.

In summing up we may say that the motor impotence with flaccidity of the muscles, the abolition of cutaneous, muscular and articular sensibility; the absence of rigidity in the parts deprived of motion, with conservation of the



tendon reflexes; the absence of atrophy in the paralyzed muscles, and of modifications in their electric reaction constitute the fundamental characters of the paralyzes of hysteric nature.

Charcot, in his first researches on the characters of hysteric paralyzes, ascribed great importance to the absence of atrophy in the muscles affected with paralysis, but from subsequent observations he was induced to state that this absence is not constant and hence it is not to be accepted in an absolute sense. Babinsky published four cases, observed in the clinique of Charcot, of hysteric paralysis with atrophy. This presents the characters of a simple atrophy, that is, independent of any material lesion of the nervous centres and the peripheral nerves. The paralyzed muscles do not show fibrillar twitchings; they conserve, in normal degree, mechanical excitability; electric contractility is diminished in proportion to the atrophy, but degenerative reaction is not met with. The hystero-muscular atrophy may be developed and may disappear with great rapidity.

In order to illustrate what we have said on hysteric paralyzes of traumatic origin, we shall here relate some observations of cases published by the school of the Salpêtrière

CASE I.—A woman of 31 years, with hereditary predisposition (her parents arthritic, a maternal grandfather epileptic), after giving a slap to a boy of seven years, was struck with a paralysis of the hand. This paralysis, when the patient was visited, dated back one year, and it was specially limited to the movements for extension. In the objective examination there was found a superficial and a deep anæsthesia of the hand as far as the wrist, where it was circumscribed by a circular line perpendicular to the axis of the arm; the muscular sense of the fingers was abolished.—(Charcot, Seventh Lecture, 1888.)

CASE II.—A man of 29 years; a cousin epileptic, a sister neuropathic. Whilst he was wheeling a hand-cart he was run upon suddenly by a heavy car and from the stroke he fell, deprived of consciousness. He did not

present any apparent lesion, and after coming to himself in five days, he had forgotten all that had happened, and he felt his lower limbs as if they were dead. One day he was seized with a severe attack and he remained for a week in a comatose state; on awaking he showed dumbness for two days. The lower limbs were affected with a flaccid paralysis, accompanied by cutaneous anæsthesia and loss of the muscular sense. The anæsthesia was bounded by a line that followed in front the inguinal fold, leaving the genitals intact, and backwards along the insertion of the gluteal muscles, leaving in the middle a sensible zone in form of a V, corresponding to the sacrum. The patient had the following hysteric stigmata: absolute anæsthesia of the pharynx, abolition of taste and smell, diminution of hearing on both sides, bilateral restriction of the visual field. The paraplegia disappeared suddenly after a hysteric fit.—(Charcot Lectures, Vol. III., 1887.)

CASE III.—A woman of 18 years, who presented very neatly the three periods of the great hypnotism and was affected by a grand hysteria, with hemianæsthesia, in a fit of anger kicked a stove with the left foot, which was habitually sensitive. Almost immediately, there took place in the foot and the lower part of the leg a sense of weight and torpor, with flaccid paralysis, cutaneous and deep anæsthesia and paralysis of the muscular sense, whilst on the right side, the anæsthesia, which had been general, disappeared in the foot and the leg, in the parts exactly corresponding to those which became insensible on the left side.—(Charcot's Sixteenth Lecture, 1888.)

CASE IV.—A man of 46 years, whilst beating with a large wooden mallet a plate of bronze, struck the left hand with the mallet. He immediately felt an acute pain with itching in the hand and the forearm. The hand remained paralyzed, with anæsthesia which extended to the wrist and the forearm to within ten centimeters of the elbow, where it ended in a circular line perpendicular to the axis of the limb. The fingers and the hand showed paralysis of the muscular sense. The patient presented only one hysteric stigma, bilateral concentric restriction of the field of sight.—(Charcot, Lecture, 1888.)

CASE V.—A girl of 16 years, with hereditary predisposition, hysterical, right hemianæsthesia, ovarialgia on the left, and restriction of the right visual field, fell from a ladder and struck on her left arm, which became immediately paralytic. At the objective examination, flaccid paralysis was found in the left arm, with absolute cutaneous anæsthesia, which was limited above, on the side of the neck and the breast, by a circular line perpendicular to the axis of the limb. The anæsthesia extended to the deep parts. Electric reaction in the muscles was normal.—(Charcot, Twenty-fourth Lecture.)

CASE VI.—A man of 25 years, with hereditary antecedents, fell from a vehicle and struck on his right shoulder. After a few days, he showed a monoplegia in the right arm, which had continued for four months when he was examined. Objectively flaccid paralysis of the right arm was seen, with exception of the fingers; there was cutaneous anæsthesia of the limb, which extended downwards on the back of the hand to a few centimeters above the metacarpo-phalangeal articulations, and on the palm of the hand to one centimeter below the bend of the wrist. No electric modification.—(Charcot, Vol. III., page 299.)

CASE VII.—A youth of 18 years, a mason, with hereditary antecedents, fell from a height of two meters and became senseless. He received slight bruises on the right shoulder and knee. Three days after the accident he found that his left arm was weak. Movements of the shoulder were impossible, whilst those of the hand, on the forearm and of the latter on the arm, could be effected, though very incompletely. There was not a trace of rigidity. The face and the lower left limb were normal. There was diffuse hemianalgesia on the left; the anæsthesia was complete, but limited exclusively to the arm. Bilateral restrictions of the visive field. Treatment was ineffectual and he entered the Salpêtrière (March 11, 1885.)

Although his fall occurred ten months before, the upper left limb presented a flaccid paralysis without any trace of contracture. Muscular electric reaction normal. Absolute cutaneous anæsthesia diffused over all the limbs (hand, forearm, arm and shoulder); the deep parts also insensible. The left half of the face and of the trunk, and

the left leg present analgesia. There is restriction of the left visive field. Four days after his entrance into the Salpêtrière, he had the first fit of hysteric epilepsy; other attacks occurred on succeeding days, and after one of these he found, to his great surprise, that he was able voluntarily to move the left arm, which had been completely paralyzed for ten months past.—(Charcot.)

These reports clearly show the characters that distinguish hysterotraumatic paralysis. It is highly important to recognize them, since, in considering the phenomena that follow an injury, it is necessary to exclude, as Charcot observes, the possibility of their dependence on a commotion or contusion of the peripheral nerves, or a circumscribed lesion of the spinal medulla, or finally, a focal affection of the brain.

*a.*—If, for example, we take into consideration a monoplegia due to contusion of the brachial plexus, there is not observed, as in the hysteric form, an anæsthesia both superficial and deep. The mode of distribution in the two cases differs. In brachial hysterotraumatic monoplegia the anæsthesia includes the whole shoulder as far as the pectoral region, whilst in organic monoplegia of peripheral origin, it commences at two or three finger breadths above the elbow and it leaves intact the shoulder and the upper portions of the arm. Hysteric anæsthesia does not follow the distribution of the peripheral nerves as anæsthesia due to an organic lesion does; therefore, it is seen that in a case of brachial monoplegia, without participation by the fingers, it is diffused over the whole limb, except the fingers, and in another case of paralysis, limited to the hand and wrist, it extends over the half of the forearm. But that which truly characterizes traumatic hysterical anæsthesia is its mode of separation from the parts remaining sensible, which is by a line nearly circular, just like a line of amputation, perpendicular to the axis of the limb. Finally, in traumatic monoplegia of peripheral origin, there are observed cutaneous and muscular trophic disturbances, atrophy of

muscles, with degenerative reaction, but in hysteric monoplegia these are absent.

*b.*—A circumscribed destructive lesion of the gray substance of the lumbar or the cervical enlargement of the medulla, may give place to a monoplegia of the leg or the arm, but in this instance there should be observed, after a short time, atrophy of the muscles, with degenerative reaction and absence of the tendon reflexes, characters which are wanting in hysteric paralysis. Furthermore, spinal anæsthesia differs essentially, in its mode of distribution, from hysteric anæsthesia. Thus, whilst in a case of hysteric paraplegia the anæsthesia is limited above by a line which runs along the inguinal fold and the insertions of the gluteal muscles, leaving intact the sacral region; on the contrary, in paraplegia of spinal origin the anæsthesia extends to the lower part of the abdomen and is distinguished from the same part by a line perpendicular to the axis of the trunk, which passes near the umbilicus.

*c.*—Lastly, it might be supposed that the monoplegia has been the consequence of a focal lesion in the brain, produced by a capillary apoplexy consequent to a traumatic commotion. But this hypothesis is readily excluded. A monoplegia of cerebral origin presupposes that the seat of the lesion is most commonly found in the internal capsule or in the cerebral cortex. In the motor portion of the internal capsule the fascicles of nervous fibers destined to the limbs and the face are in such immediate interrelation that a focus in the internal capsule generally produces a paralysis of motion which usually strikes at once the limbs and the face.

Nothnagel did not know of any case serving to demonstrate the existence of a monoplegia in only one extremity, in foci of the corpus striatum. Charcot says they are very rarely met with. But even leaving out of account this fact, an organic capsular monoplegia will be readily distinguished from an hysterical monoplegia by the absence of superficial and deep anæsthesia in the para-



lyzed limb. The same may be said as to the hypothesis of a monoplegia from a cortical origin. In the first place cortical paralyses in pure monoplegial form are seldom to be observed, and they are mostly accompanied by phenomena of contracture in the paralyzed parts, whilst hysteric paralysis may continue flaccid for a long time—more than a year. Finally, in cortical paralyses the disorders of sensibility are usually of slight degree and there is never seen an anæsthesia so complete as in paralyses of hysteric origin.

From examination of these cases it is shown that the hysterical paralyses are presented with a symptomatic complex sufficiently characteristic to render the diagnosis generally easy. It should also be kept in mind that other symptoms are hardly ever wanting, which serve further to establish the hysteric nature of the paralysis: such are the disturbances of sight in the form of restriction of the visual field, monocular polyopia (diplopia and triplopia), the absence of participation by the face in the paralysis, sensorio-sensitive hemianæsthesia, convulsive fits and hysterogenous zones.

## II.

Under the influence of traumatic action we may see, instead of a paralysis, the *contracture* of a limb, as a partial manifestation of hysteria. The English physicians are accustomed to designate by the term *local hysteria*, or partial, the most of those disturbances which continue in the hysterical more or less permanent, in the intervals between convulsive attacks, and which permit us almost always, by reason of the characters presented by them, to recognize the existence of a hysteric neurosis, even when convulsions are not present. Hemianæsthesia, contractures, paralyses, ovarialgia, etc., etc., etc., belong to this local hysteria.

As far back as 1837 the illustrious English surgeon, Benjamin Brodie, called attention to phenomena of local hysteria produced by the direct action of an injury; and

he described several cases of contracture of the arm, consequent on puncture of the fingers. Charcot has recently published several cases of hystero-traumatic contracture, of great interest :

I.—A girl, after falling on the back of the hand, showed a contracture of the flexors of the fingers, which lasted several months. She had complete anæsthesia of all the right hand and of the lower part of the forearm. The contracture disappeared suddenly. The patient never had any convulsive attacks, nor any disturbances of general sensibility.

II.—A woman of 27 years underwent a slight crushing on the right forearm, with pain and swelling. In a few minutes there was produced a contracture in the fingers of the right hand. The contracture and the pain continued several months and then disappeared suddenly. There was next observed a paralysis with hemianæsthesia and ovarialgia on the right.

III.—A third case relates to a woman who was affected with hystero-épilepsy and right hemianæsthesia. She fell from a ladder, striking on the left side, and immediately, on the left side, there appeared a rigidity in the lower limb ; the thigh and leg were extended and the foot had plantar flexion. The right hemianæsthesia passed over to the left.

IV.—We record, finally, a fourth case, relating to a neuropathic woman of 21 years, who fell and twisted the left foot. She immediately felt a very acute pain and then the lower left limb became rigid, with a zone of anæsthesia on the foot and leg. The contracture extended to the right leg.

The characters of *hystero-traumatic contracture* are, according to Charcot, the following :

The contracture remains limited to the region on which the injury acts, or it may rapidly extend to neighboring regions and may finally occupy the whole limb. Its persistence is noteworthy, as it may last several weeks, and months, or even years. In the first days there are observed cutaneous hyperæsthesia and spontaneous pains

in the locality affected: the slightest pressure and the least movement exacerbate both the pains and the contracture. Swelling and redness are sometimes seen in the affected parts. The hyperæsthesia is usually followed, sooner or later, by anæsthesia more or less absolute, whilst the muscular contracture is persistent. The contracture may sometimes be substituted by a paresis, or even by a paralysis, with relaxity of the limbs.

### III.

#### RAILWAY INJURIES.

A subject that has claimed much attention from physicians and especially from neurologists is that of the *traumatic neuroses*, studied in relation to *railway accidents* (crushings, collisions). The most numerous observations have been made in America and England, where, under the terms of *Concussion of the spine*, *Railway spine*, and *Railway brain*, they have formed the object of special studies, among which those of Erichsen, Page, Walton, Putnam, Knapp and Clevenger merit particular notice. In Germany also there have been published, on the same subject, several works by Westphal, Moeli, Bernhardt, Strumpell, Schultze, and by Oppenheim, who has written an important monograph on it. The French school of Salpêtrière, likewise, has engaged in the study of railway injuries in relation to the neuroses, and Vibert has made an interesting study of the subject in its medico-legal aspect.

The clinical delineation of the nervous disturbances manifested after railway injuries, embraces three orders of symptoms, which relate to the *intellect*, the *functions of sense and motion* and the *vegetative functions*.

The psychical disorders constitute, in some cases, the principal or the only phenomena of the malady. After a traumatic accident the patient usually remains in a bewildered or confused state of mind, which may pass over in a few days, or it may constitute the prodromic phase of

grave intellectual disturbances. The chief symptom of psychical disturbance is a profound change of character and of the affections. A feeling of *malaise* and sadness invades the patient and he cannot explain the change; he speaks but little and he appears to be very anxious about his own health. He becomes indifferent to all his surroundings and finally to the members of his own family. This depressive state is associated with a distress and oppression which reach sometimes to violent outbursts of despair. In certain cases these outbursts may be induced by the bare recall of the catastrophe, or by other circumstances reminding him of it. The despair frequently follows doubtfulness, which is associated with the incapacity felt by the patient to describe correctly his own condition. The despair is accompanied by a painful sensation in the region of the heart and by palpitation. In a case described by Erichsen and another by Oppenheim, agoraphobia was observed (? dread of open spaces).

In most of the cases there exists an abnormal sensibility, by reason of which all the perceptions of the outside world provoke a painful feeling and irritate the patient. Some are startled by an unexpected noise; others weep for trivial causes, or they abandon themselves to violent anger. The morbid depression may reach such a degree as to give place to despair, with attempts at suicide.

As respects the *intellectual faculties*, it is usually found that they are in a tired state, torpid—so that the most simple mental work, which even demands no effort of the attention, tires and exhausts the patient. When asking questions, as Vibert writes, he takes no care to put them in a simple and precise form, so as not to require long replies; and it is seen that he hesitates in his own answerings and sometimes halts and falls into a state of extreme despondency. Some cannot even read an article in a newspaper, because they become confused and are unable to follow the conceptions expressed in it. All these persons lament their weakness of memory; and in some this indeed proves to be a lasting disturbance and is so intense that the

patient forgets his age, his name, the number of his children and the principal events of his life. Sometimes a considerable dementia, with progressive weakening of memory is developed. Bernhardt relates a case in which, in the course of years, there was exhibited a dementia of such a degree as to remind him of progressive paralysis (general paresis).

Maniacal and raving states are very rare. Oppenheim asserts that psychical disturbances only exceptionally present the characters of a psychosis in the strict sense of the word, which might entitle it to rank in the list of the psychopathies already known. Vibert, only in two patients observed delirium and true accesses of mania, whilst in the majority of the others he observed a psychical inactivity with apathy and total indifference. In a patient of Thomsen, after a railway injury, there was developed a sensory delirium with ideas of grandeur and persecution, which lasted three days, without the patient retaining any memory of the occurrence.

Insomnia is very frequent. Sleep is not always absent, but it is light and is disturbed by agonizing and terrified dreams, which often relate to the accident. The patients frequently feel a sensation of giddiness and not rarely they become subject to attacks of simple loss of consciousness without convulsions.

We now pass on to describe the disturbances of the functions of relation.

The disturbances of sensibility are, for the most part, of a subjective nature and they are met with in all the cases. The patients complain of pains in the limbs and more especially in the back. Pains in the waist are seldom observed. Pressure along the vertical column provokes pain. This hyperæsthesia is more marked in the cervical and lumbar regions. The pains usually are of a heavy obtuse nature and they hardly ever assume a neuralgic character; they are provoked and exacerbated by movements. Headache is almost constant, now continuous and again fitful. It is manifested with a feeling of



constriction and weight in the frontal and occipital regions and in the neck; it is aggravated under the least intellectual effort. Some have a sensation as if the head was bound by an iron hoop or contained in a leaden cap.

Parathesias are observed in most of the cases and they frequently represent the first link in the chain of morbid phenomena. The patients complain of formication and sensations of heat and cold in the limbs and the trunk. A patient of Oppenheim had a sensation as if a worm was moving within his skull.

The organs of the specific senses are the seat of subjective sensations of hyperæsthetic origin. The patients perceive before the eyes sparkles, *muscæ volantes*, colored signs and sometimes they present a true photophobia; they hear noises in the ears, hissings, and in certain cases, they have such acoustic hyperæsthesia that they cannot tolerate the least noise. Occasionally, abnormal sensations are noticed in the organs of taste and smell.

The disturbances of sensibility in form of anæsthesia are of special importance. These sometimes present the typical characters of the sensitivo-sensorial hemianæsthesia of hysteria. In one half of the body there is diminution or abolition of the sensibility of the skin and the mucous tissues. Hypoæsthesia is more frequent than absolute anæsthesia. In some cases the anæsthesia embraces all the diverse sensibilities—the cutaneous, the tactile, the thermic and the dolorific—whilst in others, only the dolorific is verified. The muscular sense also may be altered and thus the patient is unable to perceive the gestures or positions of the limbs of the affected side, nor does he perceive the muscular contractions that are provoked by electric stimulation.

The organs of the senses participate in the anæsthesia and they present symptoms of diminished or abolished function.

As respects sight there is frequently verified a restric-

tion of the visive field. Sometimes only central vision is conserved. The visive field almost always shows a bilateral restriction, which, however, is greatest on the hemianæsthetic side. It is worthy of note that the restriction of the visive field may be the unique symptom of the sensorial disorders and it pertains to the most constant phenomena of the traumatic neurosis. Achromatopsia or dischromatopsia is occasionally met with. Vibert observed in almost all his patients a paresis of accommodation, so that as soon as they commenced to read they became subject to a clouding of sight, which hindered them from seeing the letters distinctly. In a case of Oppenheim and one of Knapp, there was xantopsia (? yellow sight).

The defect of hearing is usually unilateral and in this case it is on the hemianæsthetic side. Sometimes it is bilateral, but, is more intense on the side of the anæsthesia.

The anæsthetic disturbances are besides diffused to taste and smell.

The typical sensitivo-sensorial hemianæsthesia is not often met with in traumatic neurosis. In 100 cases collated by Walton it was found seventeen times, ten on the left and seven on the right. Sometimes the anæsthesia is limited to certain regions of the body, or there is a hemianæsthesia of the skin, whilst anæsthesia of the specific senses is absent or is very trifling, or the specific sensibility presents symptoms of anæsthesia, whilst the cutaneous is intact. According to Oppenheim the anæsthesia is most frequently bilateral, but it varies much in different individuals both in intensity and extent. It is worthy of note that when the cutaneous anæsthesia is partial, or is limited to one region of the body, it does not follow, in its mode of extension, the anatomical distribution of the nerves. This is a very important character, as we have before said, for the establishment of this distinction between it and the anæsthesias that depend on an organic lesion of the peripheral nerves, or of the cerebro-spinal axis.

The anæsthesia, in fact, sometimes extends to the skin of the forehead and the head, in the form of a cap; at other times it embraces the neck and the upper parts of the thorax, or again, it attacks only the hand, the arm, the thighs, etc., etc.

The reflex sensibility of the skin and the mucosæ do not in general present any clear modifications. It is diminished on the side occupied by hemianæsthesia. The pupils react almost always normally. In four cases Walton found them unequal, but with perfect reaction. The pupillary reflex is seldom absent. The tendon reflexes generally continue, or they are indeed frequently exaggerated. Occasionally they behave differently on the two sides of the body.

The disorders of motility usually present different characters. Sometimes all the voluntary movements are effected slowly and are attended with pain. This is observed especially in the movements of the trunk, the vertebral column and the head. The patient walks timidly, keeping the legs wide apart and the trunk stiff; he avoids every even trivial shake; he leans on his staff, takes short steps, ascends and descends stairs with difficulty and he often is obliged to halt. At other times, during voluntary movements, tremor is produced: in well-marked cases this is very intense and it consists of four to six oscillations per second. The motor disturbances may likewise have the characters of a hemiplegia or of a monoplegia. It should be noted that these are usually presented on the same side as the injury and that they are located on the injured region.

Thus, after an injury to the arm, paralysis of this member is developed. Oppenheim remarks that these forms of paralysis have characters that distinguish them from the organic forms. In hemiplegia there never is any participation by the muscles of the face and the tongue. Further, the paralysis is hardly ever complete, and frequently it is greater in the leg than in the arm. A very important character is given by the partial or

unilateral anæsthesia that accompanies the paralysis. Due account is to be taken of the special localization of the paralysis, which in certain cases is limited to a segment of a limb, *e. g.*, a hand or a foot, independently of the anatomical distribution of the nerves.

Paraplegia is rarely met with. The paralyzed muscles are almost always flaccid.

Oppenheim has found that the hemiplegias and monoplegias of the traumatic neuroses may be accompanied by sensible changes in the respective muscles. These modifications consist in a reduction of their volume, with a quantitative diminution of electric excitability. Degenerative reaction has never been observed. Among the anatomical changes of the *musculature* he generally found most frequent disappearance of the transverse striature.

We have before stated that up to the present, paralysis of the facial nerve or of the hypoglossal has never been observed in cases of traumatic neurosis. We shall now add that, in like manner, in the field of the other cerebral nerves, no disturbance is usually noticed. In only a few very rare cases described by Oppenheim there was a paralysis of the ocular muscles, with typical diplopia. This author has never met with nystagmus or ptosis.

As regards language, a simple slowing in the utterance of the words is frequent. The patient sometimes speaks with difficulty and he stammers. The typical aphasia has never been observed. Oppenheim has, in some cases, seen a passing alteration of language, analogous to hysteric mutism. The patient would suddenly cease to speak, and despite his effort, he did not succeed in forming any sound until, after some time, he went back to the word with much fatigue.

To complete the description of the phenomena which form the picture of traumatic neurosis, we have now to relate what is observed in the vegetative functions. Among these, the circulation usually presents the greatest

disturbances. One of the changes most frequent is acceleration of the pulse. Walton observed in thirty-one men that the pulsations averaged  $90\frac{1}{2}$  and oscillated between 68 and 130; in twenty-eight women they had an average of  $95\frac{3}{4}$ , with a minimum of 68 and a maximum of 135. Abnormal frequency of the pulse is observed even when the patient is tranquil and it augments when he walks or hears an unexpected noise. In most of the cases the heart stroke is intense and a strong pulsation is observed in the carotids. The patient feels at the same time a sense of cardiac disturbance with anguish and precordial oppression, whilst examination of the heart is negative (?). In a few cases, Oppenheim has seen (?) dilatation of the heart with hypertrophy; some time after, acceleration of the pulse had been observed. Disturbances are observed in the vasomotor field, consisting, in general, of sudden reddening of the face, the neck or the bosom and in a blue tinge of the paralyzed parts. Stapp saw, in two cases, shedding of the hair two months after the accident.

The organs of digestion are frequently disturbed. The patients are troubled with want of appetite, nausea, vomiting, dyspepsia, ventral tympanites, costiveness, or on the contrary, profuse diarrhea. (Page.)

The urinary secretion is sometimes increased. There may be a real polyuria so that the patient will pass several litres in twenty-four hours. (A litre is twenty-two one hundredths of an imperial gallon.) As a consequence of the traumatism there may be diabetes, and more rarely, albuminuria. By the memoir of Brouardel and Richardiere, on traumatic diabetes, it appears that diabetes may be presented immediately after the injury or after a period varying by months or years. In such cases, it represents the first appearance of the traumatic disease. In the urine of one patient, who was the victim of a railway accident, forty grammes of sugar per litre were found. The emission of urine is frequently difficult.



The genital functions are almost always abolished or much diminished. The general nutrition is not in the majority of the cases, subject to any considerable alterations. In some patients, however, if they become diabetic, wasting of the body is observed and there is a premature senility (arterio-sclerosis) and sometimes a real cachexia. The temperature, for the most part, keeps its normal limits, but in some rare cases there may be found an occasional febrile state, especially during the period in which cerebral symptoms commence to be exhibited.

Summing up now all that we have hitherto stated it is shown that from railway accidents there may be developed a complex nervous affection which is manifested in disturbances of the intellect, the sensibility, the motility and the vegetative functions.

#### IV.

##### OTHER TRAUMATIC CAUSES.

We must now add that an identical symptomatic complex may be provoked by other traumatic causes. In fact, in many cases, it has resulted from a fall from horseback, from a carriage, or after a blow on the body by a passing object in motion. A large contingent to the affection described is given by the operatives employed in laboratories and factories, in consequence of the readiness with which they meet with injuries in the management of machines.

This shows that railway accidents do not give origin to a specific affection, as one might be led to conclude from the adoption of the term *Railway, Brain and Spine*, by which the English physicians have designated it. Any injury whatever that produces a sharp and sudden shake of the body, may give place to the morbid form which we have described. In cases of railway accidents the injury is produced by the crash of two trains in motion, whether they are running in opposite directions

or that one running fast overtakes another which is moving less rapidly. In this crash some die instantly, others get pitched against the sides or partitions of the car and come off with fractures and bad contusions or with insignificant lesions and some escape any lesion whatever. Vibert was present at the railway accident that happened at Charenton, near Paris, on 5th September, 1881. A train at rest in the station received the stroke of another that was running at full speed. Eight persons died instantly and among these were five who, on exterior examination, showed no appreciable lesion. Among the wounded who survived, the lesions were most frequently found in the lower limbs. The other passengers escaped with slight wounds. Leyden relates a case which had a course of five days and then ended fatally. The most minute and accurate searchings failed to discover the slightest alteration in the spinal medulla.

The disturbances that constitute the morbid figure above described are frequently independent of any lesions suffered by the patient and often, in fact, whilst they are slight, or altogether wanting, there are, on the contrary, very manifest disorders of the entire nervous system.

In thirty-three cases related by Oppenheim, of traumatic neurosis, it was seldom found that the fracture of the bones had occurred. The same fact had been before stated by Erichsen; therefore this illustrious English surgeon was induced to hold that whenever a violent injury gives place to fractures or luxations its action remains almost circumscribed to the wounded part and in such a manner that the stroke is hindered from diffusing itself into the delicate texture of the nervous organs.

Special consideration is merited by the fact that the relative time which elapses between the occurrence of the injury and the development of the morbid phenomena is not equal in all cases. Sometimes the invasion of the disease immediately follows the traumatic cause: in other instances the first morbid symptoms arise after some weeks, or months. So, too, as regards the intensity of

the symptoms, it is to be noted that cases are met with in which they are grave from the moment of the lesion; and others in which the disturbances are mild and almost insignificant at the outset, but they become serious afterwards.

The first and chief phenomenon which usually follows injury, whatever may be its nature, consists in a strong commotion (shock), which is often associated with loss of consciousness. The patient is bewildered and deeply impressed. He sometimes, as Vibert says, exhibits a sort of cerebral automatism, in which, like a somnambulist, he performs acts unconsciously. After some time this state vanishes and consciousness returns. In these conditions the patient not only is in complete amnesia of all that happened from the time of the accident up to his reacquirement of consciousness, but he has also lost the memory of all that happened in the time, shorter or longer, preceding the accident (retroactive amnesia). The first symptoms of the disease are generally representative of the *subjective sensations* of the patients, who complain of pains more less diffused, but preferentially localized in the vertebral column, the neck and the sacrum. They also complain of headache, general *malaise* and disquietude, with sleeplessness. At this time there enter into the scene all the other morbid phenomena that we have described when delineating the symptomatologic figure of traumatic neurosis.

## V.

The perfect similarity presented by the various cases reported in the principal works on the disease, is really singular, as may be shown by the numerous observations published by Erichsen, Oppenheim, Vibert, Charcot and Clevenger, as well as many others, on the subject not only of injuries due to railway accidents, but likewise those of a different nature. We shall here reproduce a few of these in illustration of our statements:

CASE I. Breens.—A railway engineer, after a collision of his locomotive with another, jumped to the ground, in order to save himself and lost consciousness. After some time he came to and he went into a guard-room close by. He was unable to go home and he had to be carried. In the night succeeding he did not sleep. Afterwards he had no tranquil sleep. He had agitated dreams, which generally related to the accident; he became frightened by the most trivial sounds and he could not tolerate the whistle of a locomotive. He was under great psychical depression and he appeared very anxious about his health. When he walked he was subject to giddiness and he proceeded with prudence, keeping his back stiff. The pupils were equal; ophthalmoscopic examination was negative. There was diminution of the field of vision for different colors. Taste and smell weakened. Hearing intact. Hyperæsthesia of the scalp and along the vertebral column. No paralysis; muscular force well conserved. The hands were often assailed by tremor, which extended to the legs whilst he stood up. The rotular reflex brisk. Pulse frequent, between 120 and 132 per minute. A sense of fullness in the epigastrium, with chronic diarrhea. Urine normal. The symptoms slowly and gradually became worse.

CASE II. Vibert.—A man of 45 years, who was in the collision at Charenton, felt at the moment of the accident a violent shock but was not wounded and did not lose consciousness. After reaching home he was under a painful emotion and he had a confused recollection of what had happened. Afterwards, he had an intense continual headache, with sleeplessness and disquietude, together with a change of character and weakening of intellect. Urine abundant, without sugar. Diarrhea frequent. Genital function abolished. Noises in the ears and vertigo. Sight weakened. He became very feeble and lean, felt an itching in the limbs, especially on the right; had fibrillar twitchings in the muscles of the tongue and lips. The mental and physical enfeeblement became progressive. Signs of mental alienation appeared and he put an end to his life by suicide.

CASE III. Oppenheim.—A man of 41 years. In consequence of a railway wreck, he was thrown backwards in the car in which he was sitting. He lost conscious-

ness. He revived after a few minutes and felt giddy. The symptoms afterwards presented were as follows: Pains in the thorax and the back, sparkles before the eyes, headache, sleeplessness, bilateral restriction of the field of sight with diminution of central vision, diminution of the other senses, analgesia diffused over the whole body with exception of the finger tips and of a zone in the lower region of the back which was hyperæsthetic, the tendon reflexes were lively, general motility was weakened, sexual power abolished.

CASE IV. Oppenheim.—A man of 31 years. In a railway collision he was pitched up and had cuts in the hands. He remained for a short time unconscious. He afterwards complained of pricking pains in the back. In the first days he had *malaise*, was sleepless and had terrors and exaggerated emotionality. Vertigo, headache and loss of sexual power. Motility and general sensibility as well as specific were weakened on the right side, which was the seat of paræsthesias. Diminution of intelligence and memory.

CASE V. Oppenheim.—A man of 37 years fell from a wagon and struck the ground with his right side, receiving a cutaneous wound on the right orbital region and a contusion on the hip. He lost consciousness and on coming to he complained of prickings on head and giddiness. The principal symptoms presented by him were weakness of the right half of the body without participation in it of the sight, hemianæsthesia of the skin on the right and of the specific senses, abnormal emotivity, weakening of memory, vomiting. The upper right limb was smaller than the left one.

CASE VI. Oppenheim.—A man of 28 years fell from horseback, wounding the right eye and the right hand. He lost consciousness. After a few days he presented convulsive symptoms, which were generally accompanied by a pain that set out from the cicatrix of the wound of the eye and he had sparks before the right eye. He became irritable, with melancholic humor and he complained of a feeling of oppression. On examination made some months after the accident, there were found an absolute anæsthesia in the right hand and the lower portion of the forearm, a weakening of the muscular sense



in all the right upper limb, concentric bilateral restriction of the field of sight, a bilateral diminution of hearing but more notable on the right, tendon reflexes normal. He presented also headache, vertigo, occasional vomiting and sight glimmerings, with great distress.

CASE VII. Knapp.—A woman of 45 years, after a fall had pain in the head and in the lumbar region, vertigo, weakness of memory, sleeplessness, xantopsia and anæsthesia diffused over all the body, with analgesia. Bilateral restriction of the visual field, especially on the right, and monocular diplopia. Loss of taste and smell. Diminished hearing on the right. Weakening of general motility.

CASE VIII. Pitres.—A man of 25 years fell from a height of about five metres (sixteen and three-fourths feet) He suddenly lost consciousness. The scalp was wounded and blood ran from the left ear. After three weeks he resumed his usual occupation, but he was assailed by sadness, and he complained of weakness of memory and tiredness of brain. On examination made seventy weeks (? days) after the accident, a fixed pain was found in the occiput and there was a hesitating walk, with impossibility to run, slight tremor in the hands, muscular force well conserved. Noises in the ears, sight not exact. Ophthalmoscopic examination negative. The visual field normal. The phenomena of intellectual asthenia remarkable. The patient was irritable; he could not keep up prolonged conversation nor fix his attention. Memory weakened. Sleep often interrupted by terrifying and erotic dreams. Sensibility well conserved. Vegetative functions normal.

CASE IX. Pitres.—A man of 35 years fell on October 15th, 1886, from a height of eight metres into water. He lost consciousness and in the days following he had fever and delirium. On November 3d, he returned to his work and remained well for three months. He then began to feel a profound sadness, with tendency to suicide. He had headache, a feeling of globus, which ascended from the epigastrium to the throat. On examination, made on December 10th, 1889, there were found besides the above symptoms, anæsthesia diffused over all the skin and the mucosæ, restriction of the visual field,

projection of the eyeballs with monocular diplopia and restriction of the visive field, without lesion of the fundus of the eye, rapid vibratory tremor of the head and limbs; with weakened muscular force on the left. Closure of the eyelids rendered standing and walking impossible. The rotular, plantar and pharyngeal reflexes were abolished. Pulse very frequent (128 to 168). Urine very abundant. The patient is subject to nervous crises, with a feeling of suffocation, and he complains of annoying pains in various points of the body and of a continual head pain which occupies the frontal region and the top of the head.

CASE X. Bernhardt.—A man, after being kicked by a horse, presented the following symptoms: hemianæsthesia on the left, restriction of the visual field, vertigo, depressed humor, epigastric pains which ascended to the throat, and vomiting.

CASE XI. Putnam.—A man of about 50 years received an injury on the shoulder. He became melancholic, lean, and he complained of loss of strength and of an acute pain in the shoulder, which came on spontaneously, or on the occasion of a slight movement, so that he always held his arm up to his neck. The muscles of the shoulder presented a certain degree of atrophy without loss of electric excitability. He presented afterwards an analgesia of all the right side. Sight and hearing intact. These symptoms were observed in an examination made two years after the injury.

CASE XII. Walton.—A man of 55 years fell from a machine and suffered a severe contusion on the right side. He had transient loss of consciousness. He afterwards felt acute pains in the back and had exaggerated emotivity, incapacity of fixing his attention, loss of sexual power. In an examination made five months after the accident, it was found that he avoided moving the right leg so as not to provoke pain in the hip corresponding and he held the right arm contracted. Cutaneous sensibility was diminished over all the right side. There was bilateral concentric restriction of the visive field, most marked on the right, where there was achromatopsia for yellow and green, with diminution of visual acuteness. Under the influence of cold douchings and galvanization the patient gradually improved.

CASE XIII. Charcot.—A man with neuropathic predisposition, received an injury on the forehead, which threw him to the ground and caused immediate loss of consciousness. He had a wound on the forehead which suppurated. After a few days he changed in character and in an examination made five months after the accident, it was found that he was sad and that he felt an absolute impossibility to engage in any sort of work. He had insomnia; he was tormented in the night by terrifying dreams. "I see," he said, "every night, a hand which squeezes my throat and chokes me." It seemed to him that his head was held as if in a leaden cap. Muscular power was diminished. He presented a bilateral concentric restriction of sight, a monocular diplopia on the left, a left hemianæsthesia of hearing, taste, smell and touch, with hysterogenous zones.

CASE XIV. Charcot.—A train conductor was in a car which was upset by a locomotive and broken into splinters. He does not know what happened at the moment. He remained some time unconscious and on reviving, it was found that he did not present any serious lesion except a few bruises on various parts of his body. Some days having passed, he felt in himself a profound change. The whistling of a locomotive made him leap up, the sight of a train in motion made him dizzy. Being continually assailed by sad ideas and an exaggerated emotionality he wept for the most trifling causes. Memory was weakened and the course of his ideas was slow; he had headache and in the night painful dreams. Genital power weakened. On objective examination a concentric restriction of the field of vision was discovered without any other disturbance of general or specific sensibility. He was subject to fits. Noises in the streets, a cry, cracking of a whip, caused a sensation of suffocation in the throat, with noise in the ears, beating in the temples, beclouding of sight and sometimes loss of consciousness.

CASE XV. Charcot.—A builder with hereditary predisposition, fell from a height of about ten metres. Loss of consciousness was immediate, but he regained it in two hours. No grave lesions, merely some con-

tusion on the right side and a small wound on the right parietal region and another on the right thigh. After a few days he felt weak, complained of pains in the sacral region and tiredness of the legs; from time to time he had vertigo. He resumed work, but after some months his symptoms became worse. He had insomnia, dreams of terrible animals, attacks of palpitation with a sense of suffocation in the throat and bright circles before his eyes. There was cutaneous hemianæsthesia on the right, with slight restriction of the visual field and diminution of taste and smell on both sides.

CASE XVI. Charcot.—A man of 22 years, in a railway collision, was thrown against the partition of the car in which he was seated and he immediately lost consciousness. He revived after two or three minutes, left the car and went to look for succor, but being suddenly struck with general *malaise* he had to desist. He afterwards, was sleepless, distressed, had terrifying dreams, pains in the sacrum and a sense of stricture of the throat, tremor and nervous attacks, beating in the temples. He wept without cause, was sad and apathetic. In the right limbs a notable paresis, with tremor, was notable. Tendon reflexes normal. Absolute anæsthesia of all the right half of the body, with abolition of taste and diminution of smell and hearing on the same side, bilateral concentric restriction of the visual field and monocular diplopia.

## VII.

The first studies by Erichsen on the genesis of the phenomena provoked by railway accidents or other traumatic causes, had led him to attribute the prime cause of the affection to shock or concussion of the spinal medulla, provoked by the action of the injury. He afterwards admitted that the shock was diffused to the brain when disorders of the intellect appeared.

This doctrine of Erichsen, which placed in the spinal medulla the point of departure of the disturbances of traumatic origin, was generally accepted until recent times, in which the new direction given to the physiology and the

pathology of the nervous organs, came in to modify the nosological conception of many neuropathic affections. And thus it happened to the traumatic neuropathias, that, confronting the spinal theory of Erichsen, there arose, in later years, another, according to which, the unique or chief cause of the disturbances consequent on an injury, resides in the brain and has a psychical origin (cerebral theory).

But returning to the spinal doctrine, we must observe that whilst Erichsen held that the first consequence of an injury was the spinal concussion which would consist in a molecular change of the nervous tissue, he afterwards admitted that this was often followed by secondary alterations of a phlogistic nature (such as softenings, degeneration, myelitis). Yet Erichsen, as I have said in the beginning of this work, stated that in certain cases it was found that no lesion, demonstrable on the *post-mortem* table, was discoverable. He, therefore, used the term, Spinal concussion, to indicate both these cases and those in which there is an organic lesion of the medulla.

Leyden, in a clinical treatise on spinal diseases, devotes a chapter to spinal shock and admits with Erichsen that spinal alterations are frequently developed secondarily after the commotion.

Erb, under the title of *Commotion of the spinal medulla*, includes those cases in which, after great external violence, there are manifested grave functional disorders of the spinal medulla, impossible of recognition in the organ by the pressure of notable anatomical alterations.

Page, in 1882, made a critical analysis of all that had been published on the subject of traumatic neuropathias. He remarked how difficult it must be for the spinal medulla to be injured in its structure, so long as the vertebræ remain intact. The cases of spinal shock, usually regarded as typical, do not present, according to this English surgeon, excepting in rare instances, certain signs of organic lesions of the medulla. Fractures of the



vertebræ and lesions of the medulla are not observed in persons who have been the victims of railway collisions but only in those who have fallen from a height or have received a violent blow on the back. Page asserts that there are a great many cases due to railway accidents, in which the observer is at such times, relying on symptoms, induced to halt on the diagnosis of myelitis or chronic meningitis, whilst the case in hand is merely one of functional disorders.

In 1883, Putnam maintained that organic lesions are very rare in spinal shock and that the cases described under this name belong, in the majority to a special morbid type; that some of these present symptoms which belong to a typical hysteria (hemianæsthesia) and that many morbid manifestations of the disease are due to functional disorders of the brain rather than of the spinal medulla. Almost contemporarily, Walton, in a work on the cerebral origin of the symptoms included under the designation of spinal irritation, proposed the denomination of *Railway brain*, as more appropriate than *Railway spine*, for signifying the complex of the nervous phenomena that follow the action of railway injuries.

Thus have arisen the primary bases of a new doctrine which has regarded traumatic neuropathias as of a functional nature and of cerebral origin. To Charcot pertains the merit of having given to this doctrine the greatest impulse and of having almost created it by means of his very minute and general observation. This illustrious French neurologist holds that the nervous states, severe and tenacious, which are presented after railway accidents, or other traumatic causes, belong commonly to hysteria or to neurasthenia, or in fine, as very often happens, to the two affections conjoined. In general the neurasthenic phenomena (such as headache, psychical exhaustion, melancholic humor and hypochondria, anguish, insomnia, disturbed dreaming, weakness of genital power, heaviness of the limbs, diffused pains in the back, the sacrum, etc., etc.) are the first to appear and they prepare the soil in

which a little afterwards the hysterical phenomena are developed (nervous fits, hemianæsthesia, restriction of the field of vision, monocular polyopia).

Charcot holds that the traumatic neuropathias have psychological cerebral origin, thus setting out from the notion of what happens in hysteric paralyses, of which we have described the characters and the mechanism according to which they are developed. It is known that Russell Reynolds, in a work published in 1869, called attention to the paralyses of sense and motion which are developed after an idea, through the effect of disturbed imagination. Similar cases have been described by other observers and especially by Erb.

This doctrine of the development of the morbid phenomena consecutive to an idea, has found, in the researches on hypnotism, a wide field of observations which have come in to confirm it. Charcot has established the fact that in hypnotized subjects there may be obtained, during the somnambulic state, by means of suggestion, a complete monoplegia of the arm or the leg, or a partial paralysis of a segment of a limb, *e. g.*, the fist, the shoulder only, with clinical characters exactly the same as those of hysterotraumatic paralyses (absolute flaccidity, cutaneous and deep anæsthesia, loss of the muscular sense, limitation of the anæsthesia in a circular form, loss or diminution of the tendon reflexes).

But that which is most important for us to know, because of its direct application to the traumatic neuroses, is the fact that in hypnotized subjects and in the somnambulic state, paralysis of the limbs is obtained by the introduction of an agent similar to the injury. Thus, a blow on the shoulder with the palm of the hand immediately provokes monoplegia of the corresponding limb; the hypnotized person shakes, he feels in the limb that has received the blow, a sense of weight and torpor, weakness; he has the sensation of not having the part any longer and almost immediately the paralysis is manifested with the characters already indicated.

The effects of a traumatic suggestion may be produced in the waking state also; and Charcot relates precisely a case of a grand hysterical in whom, in the waking state, he was able to provoke, by a smart blow applied to the shoulder, paralysis of the member.

Now, in what manner has this paralysis its origin? Charcot gives the following explanation: The hypnotized subject is found in a special psychical state, particularly favorable to suggestions. He receives a slight blow on the shoulder. This slight traumatism—this local shock, has been sufficient to provoke, over all the limb, a sense of torpor, weight, initial paralysis. By the mechanism of auto-suggestion, this rudimental paralysis rapidly becomes a real paralysis. The phenomenon is evolved in the brain cortex, in the seat of the psychical operations. The idea of the movement is already the movement on the way to execution; the idea of the absence of movement, if it is intense, is already the realized motor paralysis. When thus produced the paralysis may be said to be *ideal, psychical, per imagination*.

Such, according to Charcot, is the mechanism of the production of psychical paralysis in the somnambulism of the grand hypnotism. It is in a certain mode, as he expresses it, the result of a dream—an intense dream, that is objectively realized.

In applying this doctrine to the traumatic neuropathias, we must admit that the cerebral state produced by the nervous emotion, after a traumatic accident, is in a certain measure, equivalent to that cerebral state which hypnotic manœuvres determine in hysterical subjects. And probably, says Charcot, it is exactly according to a mechanism of this nature that are developed the majority of those various affections, often so lasting and tenacious, though not dependent on any organic lesion, that have been studied under the title of *Railway spine* and *brain*. Every injury usually brings with it a local shock, which consists in transient disturbances of motion and sense, which are developed in the part acted on. Now, these sensations act

as a suggestion, insinuating into the mind of the subject the idea of motor powerlessness.

Oppenheim distinguishes two elements in traumatic states—one physical or direct and the other psychical. To the direct effects of the injury pertain the contusions, ecchymoses, distortions, lacerations of muscles and tendons, fractures, etc., as commonly observed in general shocks of the body.

The psychical element is furnished by the strong impression, the terror which the individual undergoes when violently struck by an injury. This constitutes the most important condition in the genesis of the affection and in the majority of cases it has such an intensity that there results from it a persistent alteration of the mind. This may be manifested with paralytic states of psychical basis, or the persistent pains and the abnormal sensations act on the diseased psyche, provoking morbid ideas. Oppenheim thus concludes :

The fundamental cause of traumatic neurosis does not consist in gross modifications, or in such as are discoverable by the microscope, but in functional cerebral disturbances, which very probably have their seat on the cerebral cortex, and alter the psyche, as well as the centres for motility, sensibility and the specific senses.

As has been seen, Oppenheim agrees with Charcot in admitting the cerebral origin of traumatic disturbances; but as regards the nosographic conception of the affections, he holds a different opinion. Oppenheim is opposed to the French school, which regards traumatic neurosis as no other than *hysteria* developed after an injury, or as a *hystero-traumatic neurosis*. In support of his thesis he presents the following arguments :

1st, The disorders of cutaneous and sensorial sensibility do not belong exclusively to hysteria, but we find them in other maladies which are considered as of functional nature (epilepsy, chorea). We should not, therefore, conclude that a person is hysterical because disturbances of sensibility are met with in him. Further,

the tenacity of the anæsthesias, in persons struck by an injury, constitutes a character which distinguishes them from truly hysterical anæsthesias, which are mobile and capricious.

2d, They overpass the limits of the symptomatic figure (which is already too broad) of hysteric neurosis, when we regard the sadness, the distress, the moral depression of the individuals affected by an injury, as the psychical manifestation of hysteria.

3d, There are some cases, the symptoms of which observed, indicate the existence of an organic, material lesion in the nervous centres, as atrophy of the optic nerve, inequality and immobility of the pupils.

The first of these arguments does not seem to us of much value in combating the hysterical nature of the traumatic neuropathias. The finding in an epileptic or a choreic, of disturbances of sensibility in the form of hemianæsthesia, does not exclude its hysteric origin. It is notorious that the neuroses are not seldom presented combined together, so that the same individual may present, at the same time, hysteric phenomena along with others belonging to a choreic neurosis or an epileptic. Further, when in a person who has suffered an injury, we meet with, as often happens, symptoms of lesed sensibility, associated with others that are commonly observed in hysteria (nervous fits, paralysis of motion, hysterogenous zones) it is logical to attribute to these also an hysteric origin.

Among the symptoms of traumatic affections we have noted the permanent restriction of the visual field and the diplopia or monocular polyopia. Very well, these phenomena up to the present have been observed exclusively in hysteria.

As to the tenacity, the persistency of the anæsthesias of the injured, which, according to Oppenheim, would be a character contrary to the hysteric nature of the affection, we must first of all state that the largest contribution to traumatic affections is furnished by men and that



precisely male hysteria, as Charcot has observed, is often presented as an affection characterized by the permanence and tenacity of the symptoms, quite different from what succeeds in female hysteria, in which the symptoms are mobile and unstable, though there may be cases in women also in which the hysteric phenomena continue through months and years.

As to the second argument invoked by Oppenheim, respecting the psychical state, that it would be foreign to hysteria, properly so-called. Charcot meets it by observing that in cases of hysteria, the most typical, independent of any traumatism whatever, and particularly in men, degeneration and the tendency to melancholy, are frequently found. The psychical state of injured persons does not constitute a special psychosis, but the symptoms enter the well known figures of hysteria, or better to say, of neurasthenia, which has so many points of contact with hysteria.

Lastly, the existence of symptoms which indicate an anatomical alteration, cannot be adduced as an argument against the theory of Charcot, inasmuch as it is rarely observed in traumatic affections and when it is met with it leads us rather to hold that we have before us a new morbid form, different from that most commonly observed, that is to say, an affection whose manifestations depend on an organic lesion of the nervous centres, since it is known that injuries sometimes constitute the determining cause of progressive paralysis (general paresis), patch sclerosis and locomotor ataxia. We ought still further to consider that in one and the same individual we may see associated the symptoms of an organic affection with others of a functional nature.

## VII.

After what we have stated in relation to functional neuropathias of traumatic origin, the very great importance of the subject, in a medico-legal aspect, must be clearly seen, in its connection with the pecuniary

compensation demanded by the persons injured, from those whom they hold directly or indirectly responsible for the injury. In America, where railway collisions are very frequent, the companies are obliged to disburse to passengers enormous sums, in reparation of damage suffered by them, and questions often arise which have to be decided by the courts, as on the one side the plaintiffs, contend for large compensation, whilst on the other the railway companies refuse to give such. The duty of a physician who is summoned to give his opinion in cases of traumatic neurosis is one of great delicacy as he is constrained to guard himself against the attempts of simulation or of exaggeration of the morbid phenomena, practiced by the complainant with the view of securing a large indemnity. The decision of the expert becomes all the more difficult, inasmuch as the traumatic neuroses are usually manifested in a complication of phenomena which are in great part of a subjective nature, and in certain cases are absolutely devoid of any objective symptom. It is therefore indispensable that the physician shall possess accurate knowledge of the diverse effects of injuries on the nervous system, so that he may not be led to judge hastily of the symptoms which are offered to his observance and thus to admit simulation because he finds some unusual phenomena. Knapp justly observes that in America the surgeons of railway companies express, with great readiness, judgment of simulation or exaggeration of the morbid phenomena, and being habituated by their experience, to rest their diagnosis on the objective data, they cannot appreciate at their true value certain morbid symptoms which, on the other hand, are quite evident to the eye of the neurologist.

The first requirement of the expert called in to give his opinion in a case of traumatic nervous affection is that of deciding whether it is real or simulated.

The question of simulation in the traumatic neuroses was a subject of discussion in the last International

Medical Congress, held at Berlin. Schultze, the reporter on the theme on traumatic neuroses, held, with Hoffman, that simulation obtains in a large number of the cases. Seeligmüller met with it in twenty-five per cent. of the cases and he said he knew one simulator who succeeded in getting paid for several years an annuity of 2,000 marks. Hitzig, Mendel and Rumpf admitted that there are simulators but that the number was not so great as the above observers believed. Oppenheim, on the other hand, held that simulation is rare, and he remarked that if we look through the statistics relating to the subject, it becomes at once manifest that the judgment of simulation is not seldom founded on deficient arguments and erroneous premises, as the witnesses were unable to appreciate justly the theories of the present day on the traumatic neuroses and the significance of functional maladies.

However it may be, the expert, even in the presence of simulation, should subject the patient to an accurate and scrupulous observance and bear in mind that sometimes, just as it happens to be observed in hysteria, the simulation itself constitutes the sign of a pathological state perfectly real, the subject ought to be held under observance for a long time, and if possible, in a hospital, and interrogated with prudence in such a way that he may display his own state without the necessity of many questions.

Whenever, the physician has before himself a symptomatic complex consisting of disturbances of intellectual capacity and the functions of relation, he already possesses sufficient criteria for exclusion of simulation. The psychical disturbances present, as we have said, such characters as cannot be long simulated without great difficulty under the eye of an attentive observer. Insomnia, attacks of despair, exaggerated emotivity, mental depression, melancholic expression of physiognomy, weakness of memory, form an assemblage of phenomena that cannot be simulated.

If we then proceed into the field of the somatic disturbances, we meet with some, the simulation of which becomes impossible. Among these should be enumerated nystagmus, inequality of the pupils, monocular diplopia, monoplegias with the characters before described, fibrillar movements of the lips and of the muscles of the face, trophic disturbances and increased frequency of the pulse. Oppenheim regards, as characteristic of the traumatic neuroses, the restriction of the visual field and the local patches of anæsthesia. Schultze has rarely observed these symptoms. Hitzig also rarely met with restriction of the visual field. An important criterion for the establishment or the exclusion of simulation is furnished, as Oppenheim observes, by the fact that in the traumatic neuroses there is hardly ever a unique symptom but a complex of morbid phenomena which are associated in a characteristic whole.

But though it is relatively easy to a medical expert to detect simulation, it is, on the contrary, very difficult to decide whether an individual, who is really diseased, more or less exaggerates his state. We do not, says Oppenheim, possess any measures of the degree of pain which permits us to decide whether the manifestation of it is in true relation to the intensity of the pain. Besides, it is known that exaggeration itself is a frequent symptom of hysteric neurosis, of hypochondria and of neurasthenia, so that a morbid significance is usually attributed to it. However, a patient study of the patient, a minute inquisition and information derived from the persons who know him, permit us sometimes to judge whether the morbid phenomena have been exaggerated. Vibert asserts, depending on his own observances, that there is reason to suspect exaggeration when there exists a considerable disproportion between the subjective and the objective symptoms and whilst the former are very pronounced, the others are trivial or wanting.

The diagnosis having been made and simulation

excluded, the physician must respond to the second question, whether the neuropathia has been a consequence of the injury, or did it pre-exist the traumatic accident? Here will come to his aid the historical notes for establishing the initial epoch of the development of the morbid phenomena. These notes should be very carefully gathered, holding in view the possibility that the individual in question may testify in his own interest, that his sufferings came on after the injury, though, on the contrary, he had them previously. There next should be taken into account some factors, such as hereditary, or neuropathic constitution, the age and the personal habits, before judging of the point of time to which the development of the morbid phenomena should be ascribed. In fact, in some cases, there are discovered in the family of the patient neuropathic antecedents. It is also important to the searcher whether there had been alcoholic habits, as it is known that alcoholism sometimes produces the same symptoms as are observed in the traumatic neuroses. On the other hand, when a morbid pre-disposition exists, the injury may provoke effects more grave and durable than in cases in which it is wanting.

Sometimes we fail to find any predisposing cause. Oppenheim reports that in the majority of his cases, reaching, in all, thirty-three, the traumatic neurosis was developed in men who had always been sound and had not presented any neuropathic indication.

Another important point to be established is that which concerns the evolution of the malady—its course, duration and exit. In order to reply to this question, we have to encounter serious difficulties, which are sometimes insuperable. The physician should be very prudent in pronouncing his judgment and so much the more so, as Vibert states, there are cases which show that some of the disturbances developed after a traumatic accident, may, after a long period of apparent good health, become aggravated in a progressive manner and may finally terminate fatally. In some cases, says Oppenheim, it is very



difficult to establish what may be the exit of the disease and how long the patient may continue unable to work to procure his means of living. He then observes that so long as the patient does not know his fate and is not free from the perplexity as to how he is to provide for his subsistence, his psychical depression continues and it constitutes the chief factor in the persistence of the disease. If, however, his situation from the outset presents, after a favorable expert opinion, a promising result, a considerable improvement may be obtained and he may, after a certain time, find himself able to resume his wonted occupation.

### VIII.

The course of traumatic neuroses is very variable. The full form of the disease is seldom developed immediately after the traumatic accident. Most frequently the morbid affection has a progressive advance and several months pass before it reaches full development.

Sometimes the morbid phenomena are at the first mild and almost insignificant, but after a longer or shorter period they become aggravated. At other times, on the contrary, the disease is initiated with grave symptoms, which become by degrees less intense. Vibert has observed in some cases that after the injury a state of excitement is produced, characterized by insomnia, inquietude, muscular tremor and headache, which may be dissipated gradually and disappear in two weeks. The nervous disturbances either immediately follow the injury, or, more rarely they hold off for weeks or months.

The prognosis, as regards life, may in general be said to be favorable, excepting those cases in which there exist cardiac disturbances or other grave affections; such as chronic diabetes. The traumatic neuroses do not in general shorten life, but the prognosis as to future health is unpromising. According to the experience of Oppenheim, complete recovery from traumatic neurosis

should be held as rare. There often remains a certain nervous weakness with great irritability and change of character. Those cases which are accompanied by great and profound disturbances of the intellect with melancholy, distress and exaggerated emotivity and with disturbances of the general functions, have an unfavorable prognostic significance. In general the gravity of the prognosis is not in direct proportion to that of the initial phenomena. Erichsen observed that the cases in which very intense phenomena were met with at the outset, presented a less unfavorable prognosis than those in which the disease was developed slowly, but afterwards became aggravated. The prognosis is unfavorable whenever epilepsy or any real *psycopathia* is manifested after the injury.

The fundamental principle of the therapeutic treatment is placed in the combined use of psychical and somatic remedies. The chief task of the physician is to withhold the patient from all those causes which may disturb him. Hence, the first indication consists in the securing of psychical quietude, and this is obtained by isolating the patient from the excitements of the outside world, withdrawing him, in certain instances, from the influence of friends and relatives and placing him, under such circumstances, in some health resort. Residence in the country or on the coast of the sea may prove beneficial. Charcot has, with advantage, applied the method of hypnotic suggestion in some cases of traumatic hysteria. Oppenheim succeeded in hypnotizing some patients, but the issue of suggestion was negative. The electric treatment may be employed with success. Galvanic electrization of the body has been found useful in combating headache, insomnia, vertigo, etc. Sometimes benefit is obtained from the electric bath, hydropathy, massage and setons (Oppenheim). In the therapeusis of the traumatic neuroses, narcotics, sedatives and tonics find an important indication.

## Weight of the Brain in the Feeble-Minded.

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IN an article in the ALIENIST AND NEUROLOGIST of October, 1890, I referred to the brain weight in seventy-five cases of imbecility and idiocy, giving only the average weight. Thinking a tabular list might be of interest, I give below a table which includes eighty-four cases, representing all grades of mental deficiency. When there was an appreciable difference from the designated weight, I have added a + or — sign, as the case might be. Under the term “Medulla” is included both pons and medulla between sections through the cerebral peduncles, close to the corpora quadrigemina and a point just caudad to the medulla.

It will be noticed that the weight of the brain in the majority of cases is below that usually found in normal persons of the same age, though there are a few exceptions to this statement.

The relation of the size of brain to that of the skull is an interesting question in these days of cerebral surgery, especially as several operations of opening the skull for the relief of pressure on the brain in cases of premature synostosis of the cranial bones have been already performed.

In one hundred and ten autopsies, in only one was there any appearance of compression of the brain from this cause. In this instance (a microcephalic idiot) the fissures appeared as narrow lines while the convolutions were flattened from pressure. Where localized atrophy of portions of the brain from disease occurs early in life, a corresponding flattening is often seen over the affected area, as if there was a close sympathy between

CASE.	CLASSIFICATION.	Sex.	Age.	Right Hemisphere.	Left Hemisphere.	Cerebellum.	Medulla.	Total.	REMARKS.
801	Low grade Imb.	M.	20	15½	16	5	1	37½	
540	Idio-Imb.	M.	22	11½	13½	6½	1	32½	Agensis posterior lobes.
602	Low grade Imb.	M.	37	16½	15½	4½	1	37½	
666	Low grade Imb.	F.	18	14½	14½	4½	1	34½	
673	Middle grade Imb.	M.	30	17½	17½	5	1	41½	Progressive muscular atrophy.
709	Apathetic Idiot.	M.	19	18½	18	5½	1	42½	
719	"	M.	22	12½	12½	4½	1	30	Bilateral paralysis.
741	"	M.	21	11	9½	4½	1	25½	"
770	"	M.	18	22	22½	5½	1½	51	"
779	Low grade Imb.	M.	19	16½	16½	5	1	41½	Sclerosis of left hemisphere. Prog. juv. dem.
806	Excitable Idiot.	M.	15	19½	17½	4½	1½	42½	
887	Middle grade Imb.	M.	19	20	19	4½	1	44½	Bilateral parencephalus with non-developm't
879	Idio-Imb.	M.	17	11½	14½	6	3	32½	Bilateral atrophy of frontal lobes from bony plates in dura mater.
869	Low grade Imb.	F.	17	9½	11	4½	1	26	
984	Low grade Imb.	M.	18	18½	18½	6	1	44	General non-development.
1180	Apathetic Idiot.	F.	13	9	9½	3½	1	22½	
970	Low grade Imb.	M.	24	20	20	5½	1	47½	Brain of simplest type. "Cerebral hypertrophy."
345	Middle grade Imb.	M.	25	22½	22½	4½	1	51½	
1114	Low grade Imb.	M.	18	19½	17½	5½	1	42½	
124	Apathetic Idiot.	M.	23	18½	17	5	1	41½	
1116	Low grade Imb.	M.	17	16½	16½	4½	1	38½	Sclerosis of left hemisphere.
1317	Excitable Idiot.	M.	9	15	10½	4	1	30½	Acute softening right hemisphere.
1282	High grade Imb.	M.	15	22	19½	3½	1	46	
958	Excitable Idiot.	M.	21	17	17	4½	1	39½	General cerebral atrophy.
1128	Apathetic Idiot.	F.	14	9½	9	3½	1	22½	Mongolian Idiot, Mubatto.
1330	"	M.	7	16	16	3	1	35½	
879	"	M.	15	16½	16½	3½	1	37	Mongolian Idiot.

1383 High grade Imb.	M.	4	10 $\frac{1}{2}$	10 $\frac{1}{2}$	2 $\frac{1}{2}$	1	44
1130 Apathetic Idiot.	F.	8	17 $\frac{1}{2}$	18 $\frac{1}{2}$	5 $\frac{1}{2}$	1	24 $\frac{1}{2}$
365 Idio-Imb.	M.	25	13 $\frac{1}{2}$	13 $\frac{1}{2}$	3 $\frac{1}{2}$	1	42 $\frac{1}{2}$
1441 Middle grade Imb.	M.	9	21 $\frac{1}{2}$	20 $\frac{1}{2}$	5 $\frac{1}{2}$	1	31
698 High grade Imb.	M.	35	22 $\frac{1}{2}$	22 $\frac{1}{2}$	5	1	48 $\frac{1}{2}$
1182 High grade Imb.	M.	10	22 $\frac{1}{2}$	22 $\frac{1}{2}$	5	1	50 $\frac{1}{2}$
925 Apathetic Idiot.	F.	15	11	11	4 $\frac{1}{2}$	1	27 $\frac{1}{2}$
1121 Apathetic Idiot.	F.	5	9	9	4 $\frac{1}{2}$	1	23 $\frac{1}{2}$
1107 Low grade Imb.	F.	18	14	13 $\frac{1}{2}$	4 $\frac{1}{2}$	1	32 $\frac{1}{2}$
1476 Middle grade Imb.	F.	10	12 $\frac{1}{2}$	17 $\frac{1}{2}$	4 $\frac{1}{2}$	1	35
1519 High grade Imb.	F.	10	18	18 $\frac{1}{2}$	4	1	41 $\frac{1}{2}$
1023 Idio-Imb.	F.	13	12 $\frac{1}{2}$	12	4 $\frac{1}{2}$	1	29 $\frac{1}{2}$
1174 Middle grade Imb.	M.	14	18 $\frac{1}{2}$	18 $\frac{1}{2}$	4 $\frac{1}{2}$	1	38
1466 Apathetic Idiot.	F.	17	15 $\frac{1}{2}$	17 $\frac{1}{2}$	4 $\frac{1}{2}$	1	41 $\frac{1}{2}$
825 Middle grade Imb.	F.	21	17 $\frac{1}{2}$	17 $\frac{1}{2}$	4 $\frac{1}{2}$	1	40 $\frac{1}{2}$
1595 " "	F.	14	20 $\frac{1}{2}$	20	5	1	46 $\frac{1}{2}$
769 " "	M.	19	15 $\frac{1}{2}$	16 $\frac{1}{2}$	4 $\frac{1}{2}$	1	37 $\frac{1}{2}$
1146 Low grade Imb.	F.	14	9 $\frac{1}{2}$	14 $\frac{1}{2}$	4 $\frac{1}{2}$	1	29 $\frac{1}{2}$
1296 Low grade Imb.	M.	8	21 $\frac{1}{2}$	21 $\frac{1}{2}$	4 $\frac{1}{2}$	1	48 $\frac{1}{2}$
1087 Excitable Idiot.	F.	12	7	7 $\frac{1}{2}$	3 $\frac{1}{2}$	1	18
1070 Middle grade Imb.	M.	23	25 $\frac{1}{2}$	24 $\frac{1}{2}$	5 $\frac{1}{2}$	1	56 $\frac{1}{2}$
1254 Middle grade Imb.	F.	21	17 $\frac{1}{2}$	18	5	1	41 $\frac{1}{2}$
1381 Apathetic Idiot.	M.	15	...	...	...	1	28
1099 Low grade Imb.	M.	20	23 $\frac{1}{2}$	23	5	1	52 $\frac{1}{2}$
1411 Idio-Imb.	M.	14	21	21	5	1	48
564 Excitable Idiot.	F.	28	11 $\frac{1}{2}$	11 $\frac{1}{2}$	3 $\frac{1}{2}$	1	26 $\frac{1}{2}$
1064 Excitable Idiot.	M.	19	19 $\frac{1}{2}$	19 $\frac{1}{2}$	5 $\frac{1}{2}$	1	44 $\frac{1}{2}$
1400 High grade Imb.	F.	22	16 $\frac{1}{2}$	17	5	1	39 $\frac{1}{2}$
1045 High grade Imb.	F.	17	18 $\frac{1}{2}$	17 $\frac{1}{2}$	3 $\frac{1}{2}$	1	40 $\frac{1}{2}$
845 Excitable Idiot.	F.	25	15	15	4	1	35
892 Low grade Imb.	F.	21	16 $\frac{1}{2}$	16	4 $\frac{1}{2}$	1	37 $\frac{1}{2}$
1315 " "	F.	17	19 $\frac{1}{2}$	19 $\frac{1}{2}$	4 $\frac{1}{2}$	1	44 $\frac{1}{2}$



CASE.	CLASSIFICATION.	Sex.	Age.	Right Hemis- phere.	Left Hemis- phere.	Cerebellum.	Medulla.	Total.	REMARKS.
1219	Low grade Imb.	M.	20	16	16 $\frac{1}{2}$	4	1+	36 $\frac{1}{2}$	
1363	Excitable Idiot.	M.	14	16	16 $\frac{1}{2}$	3		37 $\frac{1}{2}$	
1321	Middle grade Imb.	M.	17	16 $\frac{1}{2}$	17	3		38	
674	Middle grade Imb.	M.	26	21 $\frac{1}{2}$	21 $\frac{3}{4}$	6	1	50 $\frac{1}{2}$	Mongolian.
223	Excitable Imb.	M.	33	21	21 $\frac{1}{2}$	5	1	49	Progressive muscular atrophy.
966	Idio-Imb.	F.	15	11	11 $\frac{1}{2}$	3		22 $\frac{1}{2}$	
1549	Apathetic Idiot.	F.	9	10 $\frac{1}{2}$	10 $\frac{1}{2}$	2		23 $\frac{1}{2}$	
1567	Apathetic Idiot.	M.	21	20	21	3		46 $\frac{1}{2}$	
1601	Low grade Imb.	F.	10	17 $\frac{1}{2}$	17 $\frac{1}{2}$	3	+	39 $\frac{1}{2}$	
1397	Middle grade Imb.	M.	15	21	21	5	1	49	Mongolian.
951	Apathetic Idiot.	M.	19	19 $\frac{1}{2}$	20 $\frac{1}{2}$	3		34 $\frac{1}{2}$	
975	Middle grade Imb.	F.	18	14	15 $\frac{1}{2}$	4	+	33 $\frac{1}{2}$	
1080	"	F.	16	17 $\frac{1}{2}$	17 $\frac{1}{2}$	4		46	
1663	"	M.	12	14	16	4		35	
908	Excitable Idiot.	M.	17	17 $\frac{1}{2}$	17 $\frac{1}{2}$	5		40 $\frac{1}{2}$	
1199	Low grade Imb.	F.	23	17	16 $\frac{1}{2}$	3		37 $\frac{1}{2}$	
907	Middle grade Imb.	M.	20	21 $\frac{1}{2}$	20 $\frac{1}{2}$	4	1	47 $\frac{1}{2}$	
166	Middle grade Imb.	F.	36	14 $\frac{1}{2}$	14 $\frac{1}{2}$	5	1	36	
1602	Low grade Imb.	M.	21	21 $\frac{1}{2}$	21	6	1 $\frac{1}{2}$	49 $\frac{1}{2}$	
1527	Low grade Imb.	M.	16	11 $\frac{1}{2}$	11 $\frac{1}{2}$	5	1	28 $\frac{1}{2}$	
957	Apathetic Idiot.	F.	15	16 $\frac{1}{2}$	15 $\frac{1}{2}$	4	1	37	
729	Idio-Imb.	F.	24	17	16 $\frac{1}{2}$	4	1	39 $\frac{1}{2}$	
1541	Apathetic Idiot.	F.	17	12 $\frac{1}{2}$	12 $\frac{1}{2}$	3	+	29 $\frac{1}{2}$	
1576	High grade Imb.	F.	20	16	15 $\frac{1}{2}$	4	1	36 $\frac{1}{2}$	
1225	Low grade Imb.	M.	19	18	10	5	1	34 $\frac{1}{2}$	Parencephalus and sclerosis of right hemisphere.

the growth of the organ and its protecting case. With one exception where marked difference in the weight of the hemisphere has been found, it has been the result of wasting disease of the brain substance.

When mental deficiency is congenital or begins in early infancy, resulting from other cause than unilateral wasting disease, the weight of the two hemispheres does not, as a rule, vary more than one-quarter to one-half ounce.

In congenital imbeciles the weight rarely approaches the normal standard except in cases of hydrocephalus and in high-grade imbeciles where the mental balance is disturbed more by the deficiency of one or two of the faculties rather than by a general mental hebetude. Occasionally, we meet a case where preponderance of the connective tissue elements gives us a bulky organ of an exceedingly simple type.

Most cases of normal weight, however, are found in that class which might be properly called "juvenile dementia," when mental defect has followed epilepsy, juvenile mania or those cases of progressive mental decadence which destroy the mental powers, leaving little or no evident change in a large and apparently well developed brain.

## The Human Constitution in its Relations with the Alcoholic Crave.

By T. L. WRIGHT, M. D., Bellefontaine, Ohio.

His life was gentle: and the elements  
So mix'd in him, that Nature might stand up  
And say to all the world, *This was a man!*

—SHAKESPERE.

IN the present inquiry the word *constitution* denotes that assemblage of essential properties necessary to the conception of personal identity in the human being.

It is obvious that the elements referred to most commonly represent traits of individuality in parentage. But parentage, even in its simplest form, is dual. There is a mingling of constituent qualities drawn from two sources at the very start. Both of these sources, also, are derivatives and a very few generations backward will disclose the fountains of an impressive ancestry, almost beyond computation in number, as well as in modifying characteristics. The duality of proximate parentage is multiplied indefinitely by the immense number of dominant and constructive powers, which enter into and make up the constitution of each parent.

The component parts of the human constitution are, however, usually viewed as belonging to one or another of three groups. These comprehend the motor, the moral and the intellectual capacities. But this simple division of the elements of human nature, covers infinite diversities in their several constituents.

For they include not only particulars in qualities and kinds, but also modifications in grades, degrees and shadings, to say nothing of contrasts and distinctions, likes and unlikes. They also include the infinitely varying relationships, which the essential qualities entering

into the human constitution, mutually assume towards each other, in different races, families and individuals. They include, moreover, the ever-changing attitudes which the three great divisions of human nature—the body, the mind and spirit—sustain towards one another in the multiform and inconstant experiences of life.

The endless peculiarities of the motor constitution that are to be perceived in each human being, as well as those of the moral and mental departments of man's nature, point to such an incredible number of essential traits in each and every individual that it is manifest no two persons can possess precisely the same constitution. No two individuals can appear, or move, or feel, or think exactly alike. Add to these causes of diversity in the natures of men the fact that the accidents, diseases and customs of human existence modify old characteristics and impress new ones upon the race—then the impossibility of escaping the facts and responsibilities of well-defined personality becomes apparent.

It has been denied that the accidents and customs of living really impress upon posterity new and corresponding constitutional traits. It is claimed, for example, that the rite of circumcision would then exercise a physical impression upon the races of people who practice it. That there is anything in this rite to sensibly impress the constitutions of men cannot justly be claimed. It is too inconsiderable to produce profound results. To expect that a peculiar effect should become apparent in the physical element of humanity when there was no lasting constitutional disturbance in ancestry to produce it would be unreasonable. It is only when the elements of the constitution are clearly operative and dominant in ancestry that they are capable of displaying their power for good or evil in reproduction. There can be no inheritance unless there is, pre-existing, something positive and substantial to inherit.

But inebriety may reproduce itself through heredity. Profound and fundamental constitutional changes are

likely to become established when the use of alcohol is persisted in for a considerable length of time. A sensible evidence of this may be seen in the *alcoholic countenance*, indicating permanent morbid alterations within the brain. This characteristic is perceptible even when the man is sober. There is a scowl upon the brows which are drawn into a line, the eyes looking coldly and fiercely from beneath, while the mouth, most noticeable of all the features, is obstinately and strongly closed, its corners being rigidly drawn downward, the cheeks falling low and giving to the jaw and chin a determined and pitiless look. There is partial paralysis of one set of muscles and a corresponding stiffness of another set. The lineaments of the countenance are forbidding and stony—not mobile. Look, for example, upon the likenesses of certain drunkards who have occupied very high positions in public life. The muscular system in general also partakes of similar characteristics, a greater or less difficulty of movement being prevalent throughout.

The moral nature suffers still more severely, for it is exceedingly sensitive, readily impressed and, therefore, easily wrecked. The chronic inebriate is saved from criminal conduct, very largely, by automatism, habit and imitation.

The mental constitution likewise exhibits analogous conditions of brain injury. These hurts are often permanently established—constitutional—and when so, they are brought under the laws of heredity.

When inebriety is merely a disease in itself, it is a proper subject for treatment. The plan of nature is best. She is always conservative, always patient. Under her influence the inebriate family strain will either die out and there end, or in milder cases, the diseased tendencies may be gradually toned down and in time they may be eliminated from the constitution.

Cultivate and strengthen the natural relationship of the physical, moral and intellectual capacities, thus contributing to the establishment of a stable and well-



balanced constitution. In this way the evil and disturbing elements of the inebriate diathesis may be gradually but favorably impressed.

I say *impressed*, for it is apparent that a *perfect* constitution is an ideality. It is never encountered in actual life. The true constitution of humanity is either too lax or too strained. Take an average and we have simply a mental picture—never a reality.

But in the infinite variety of human constitutions there must arise many instances where individuals are born with natures very much below the average. Constitutions exceedingly imperfect appear, that are the direct offsprings of some serious ancestral defect. Such congenital incompleteness may show itself in physical malformations and in moral or mental susceptibilities. It is needless to say that serious imperfections of structure are necessarily attended by inadequacies of function. This rule is applicable equally in deficiencies of the grosser bodily organs and the finer and sensitive structures of the nerve centers.

To illustrate: There are, perhaps, few more constant physical disorders in the habitual inebriate than those of the heart. It has been pointed out that excessive alcoholic indulgence has a direct tendency to injure the walls and valves of the heart and also to stretch and derange the caliber of blood-vessels. But what was the condition of the heart before the drinking habit was formed? And who knows how much a congenitally defective heart has had to do in driving its possessor to drink? Hereditary heart affections are by no means uncommon. They are more prevalent, in truth, than is generally imagined. Many cases of heart imperfection have passed through the world undetected and unknown even to those who suffered from them. *Post-mortems* and sudden deaths fully establish that fact.

A person laboring under heart disease has of necessity a mind and disposition of great instability and inquietude. At one time, when circumstances are

propitious and general health prevails, the circulation is propelled freely and naturally throughout the regions of the brain. Life is cheerful. Mind is active and acute and the feelings are elate. Again, the same heart acts badly, possibly the liver or kidneys fail in function. At any rate, the circulation is weak, intermittent, insufficient. The brain and nerve centers suffer in common with the system at large. The mind is slow, stupid, melancholy. Irritability of temper, sullen anger, universal distress prevail and assume control.

And now, either by accident or design, the alcoholic potion is taken. Instantly, a pleasing and most welcome relief is experienced. The undefined, but wide-spread and nagging pain and discomfort, are assuaged by the anæsthetic effects of the lethal draught. The circulation for the time being resumes its activity. The sluggish current of dark and stale blood is forced onward through the brain and it is replaced by a supply of fresh blood of superior vitality. Care takes wings and flies away, while the mind finds solace in soothing dreams and unsubstantial fancies and the *dolce far niente* of recent alcoholism.

The man with heart disease is a man of *moods*, just as the dipsomaniac is a man of moods, and sometimes the cause of them is in the two persons one and the same. It is heart disease. An important fact now comes into view. Heart disease is one of the most common forms of heredity. It is not essential either that in inebriety from heart troubles, ancestry should owe heart disease to the alcoholic habit. It may be congenital from causes that are apart from alcoholism—from a family strain of rheumatism for example.

It is apparent, therefore, that the so-called "appetite" for strong drink may come from widely differing sources and may possess various qualities. The fundamental character of this appetite or "thirst" may evidently be such as to preclude the idea that it may be overcome by the mere ingestion of certain medicinal antidotes or incompatibles.

But it is indubitable that inebriety may become hereditary through certain qualities and forces inherent in its own nature. The damage inflicted by alcohol upon a given person may be so profound and extensive as materially to impress and direct the movements of the whole constitution. It is in cases of this kind that inebriety may clearly display its own hereditary power and character.

Parents who drink to alleviate, though unconsciously, the distress arising from deranged heart functions, will, quite likely, be followed by sons who will also drink in consequence of heart disease. Here, it is the cardiac affection, not the inebriety, that is strictly hereditary. Alcohol is always a fraud and a traitor, and it is true that while it relieves the pressing symptoms and present agony of deranged heart function, it really intensifies the pathological conditions which underlie the whole matter. For it is certain that while alcohol may be taken from simple frivolousness or from worse motives, its tendency is to produce heart imperfections, *de novo*, and there is no reason to doubt the opinion that they, too, may become constitutionally impressive and hereditary.

Physical defects, other than those of the heart, also may tend to the development of dipsomaniacal excesses. Serious imperfections of the lungs sometimes lead to habitual inebriety. Lung incompleteness is liable to be attended by severe difficulties in the respiratory, as well as circulatory functions, and these may be alleviated by the alcoholic influence.

Hereditary brain diseases are very common and they, too, may invite the intervention of alcoholic anæsthesia. The profound neurasthenia, symptomatized by forms of megrim and neuralgia, is usually congenital, and it is not infrequently a source of inebriety, only, alas, to the final increment and firmer establishment of the original constitutional malady.

It will be observed that in these examples of severe functional derangements, alcohol is not used as an

article of superfluity, not as something unnecessary and therefore inexcusable, but it is taken for a rational purpose, namely, to relieve a present and harassing lesion of function.

These considerations and various others of a like nature may possibly induce the ultra-scrupulous moralist to moderate his judgment somewhat when a brother stumbles. They may, perchance, lead certain persons noted for legal acumen to abate the stubbornness of their assumptions about the inexcusable criminal responsibility of drunkenness. There are many inebriates who do not indulge in alcoholic drinks with a view to their effects upon the mind and disposition and who indeed do not clearly know what those effects will be.

Respecting the proportion of dipsomaniacs whose neurotic propensity descends to posterity in the same form, I think it is a subject worthy of inquiry whether inebriates who owe their besetment to obvious congenital defects do not nearly always inherit the dipsomaniacal constitution; and also whether dipsomaniacs from alcoholic perversity alone do not mainly furnish the examples where the descent is in other neurotic forms, such as insanity, epilepsy, chorea, criminality, hysteria and the like.

It is wise to consider the origin as well as the features of dipsomania in the scheme of treatment. The importance of various appliances differ in separate cases. In some instances, moral influences occupy a prominent place in treatment; in others, intellectual instruction is imperative, while again, hygienic agents and medicines are necessary. And yet so many elements enter into the inebriate constitution that a certain mingling of all these means of treatment is required to obtain the best results. It is proper to understand that *time* is an essential element in caring for inebriety. Seclusion in a well-ordered and well-equipped retreat is also of great advantage and is sometimes indispensable in the preliminary treatment

of severe cases. The patient has a great deal to learn by precept, example and experience if he would be well and would stay well.

I would sound a note of warning to him who has divested himself of the shackles of inebriety. A great danger will be sure to arise. There will come a time when there will intrude a desire to *test the reality of the cure*. The feeling of strength will be great and "why not show to self and to the whole world that I am competent to stand up as others do?" There is but one course of safety—one sure rule. You now can abstain *altogether*, but you can *never* drink in moderation. The first cup will disable you, will take possession of you, and no longer master of yourself, you will swiftly go to destruction. Offenses of this kind cause many people to decry the efficacy of sanitary institutions for inebriates. Men expect too much and think "treatment" should accomplish results that are matters of personality exclusively, such as the exercise of reasonable fortitude, some application of the returning capacity of will and a recognition of the qualities of a growing sense of honor. There are certain conditions in all diseases, wherein "the patient must minister to himself."



# STUDIES OF CRIMINALS.

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*DEGENERACY OF CRANIAL AND MAXILLARY DEVELOPMENT  
IN THE CRIMINAL CLASS, WITH A SERIES OF ILLUSTRATIONS  
OF CRIMINAL SKULLS AND HISTORIES TYPICAL  
OF THE PHYSICAL DEGENERACY OF THE CRIMINAL.\**

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— AND —

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THE mutuality of interest involved in their studies of the degenerate classes has led the authors of this paper to combine their observations in a joint paper. This paper, however, is too lengthy for presentation to this Section. We have, therefore, abridged the subject-matter as far as possible, with the view of presenting only the most important features of the essay, reserving its complete publication until some future time.

The present paper comprises a portion of an address upon "The Skulls of Criminals," with cuts of the more important specimens, delivered by Dr. Lydston, at the meeting of the Mississippi Valley Medical Association, Sept. 11th, 1890, together with some of Dr. Talbot's studies of the jaws of the degenerate classes and deductions drawn from an extensive series of co-operative studies of criminals. No attempt has been made to formulate an arbitrary theory regarding the crime class. Indeed, it is the opinion of the

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authors that even the extensive researches of Lombroso, Ferri and others have been insufficient in this respect. We advance the proposition—which is itself not a new one—that the crime class is simply a part and parcel of that human flotsam and jetsam which can be so aptly termed the world of degeneracy.

We give due credit to Lombroso, Ferri, Benedikt, Osler, Mills, Roussel, Badik and numerous other workers in this field and are free to acknowledge that we do not hope to add much to what these eminent men have contributed upon this subject.

Very little has been done in America in the study of criminal anthropology. Nothing whatever has been done in the study of the degenerate development of the jaws as exemplified by the criminal class hence our contribution to the subject may be of interest.

C. Lombroso, of Italy, has done most wonderful work in the study of the criminal classes. His "*L'Homme Criminel*" is justly regarded as a classic upon this subject. There is one point, however, in regard to his observations that is worthy of serious consideration, viz., it is to be remembered that he has collated his material in an environment entirely different from that in which the American criminal is found. This fact will explain the diversity of opinions regarding the crime class as observed here and in Europe. As Dr. Lydston pointed out in a paper on "*The Pathogeny of Vice*," published some years ago, the results of evolution and atavistic tendencies are necessarily more pronounced in the offscourings of the older social systems as met with in Europe. Our observations tend to show that the more pronounced criminal types as seen in this country are among the imported criminals.

The aberrant brain types as seen among the degenerate classes and so excellently described by Benedikt, C. K. Mills and others, do not concern us in the present paper, save in a general way. As far as the specimens which we present are concerned, it is rational to suppose that an aberrant brain was present in each of the deformed skulls.

of our series. While external conformation is not an accurate criterion of brain development, it is still logical to suppose that when a skull is malformed through degeneracy, its contents are also involved in the maldevelopment and from similar causes. There is often, however,—and according to Biliakow,—especially among criminals, an entire lack of harmony between the external and internal measurements. Oftentimes the external circumference,—especially in the frontal and occipital regions,—is greater than the normal average, while the internal circumference is notably diminished. In case the relative deformity of the skull is due in a measure to an increased thickness of bone, much depends on the disposition of the increase, *i. e.*, on whether it is uniform, involving both tables of the bone, several bones, or is due to excessive development of external bosses. Lombroso advances sclerosis as an explanation of diminished cranial capacity when associated with large external measurements. The relation of syphilis to a disparity of the internal and external measurements and conformation is at once called to mind.

Other things being equal, the internal conformation is certainly a fair criterion of cerebral development; it is most positively an accurate criterion of cerebral conformation.

We wish to be clearly understood as recognizing perfectly the fallacy of arbitrary conclusions regarding cerebral development founded upon osseous conformation. As is well known, even the relative size of the cerebral mass itself has no definite and arbitrary relation to intellectuality. The old familiar illustration of the comparative measurements and weights of the brain of Daniel Webster and that of an idiot immediately suggests itself at this point. Spitzka has recently exhibited the brain of an idiot which weighed sixty-eight ounces, but in which the ependyma was five times its normal thickness.

In the collection in the Army Medical Museum is a specimen which aptly illustrates the inaccuracy of the size of the brain as a criterion of intellectual capacity. This

is the skull of a Chippewa squaw, of dwarfed and degenerate physique, who died at the age of eighty-five. The stature of this subject was but three feet seven inches. The skull measured 633 mm. in circumference and presented a capacity of 2760 cn. cent. The facial angle is  $103^{\circ}$ . The brain weighed 73.5 oz.

The vertical index in this specimen is platy-cephalic, the horizontal brachy-cephalic. The occipital plane is almost horizontal, the parietal eminences extraordinarily developed. The facial bones present an arrest of development; the inferior maxilla is square, excessively developed and prognathous; the teeth are degenerate. These points are interesting as showing excessive maxillary, arrested facial and excessive cranial development in the same subject. The association of the defective structure in this specimen with disease is suggested by the fact that the subject had suffered with caries of the spine.

The variations of type of the degenerate brains of criminals and the insane, as shown by Benedikt, Osler, Roussel, Lombroso, Parker and C. K. Mills, embrace briefly: variations in number, length and development of convolutions, the question of length of gyres being of special importance. Simplicity of type of gyres seems to be indicative of degeneracy. Dr. C. K. Mills has presented this subject in a very plain and comprehensive manner.\* The researches of this author will be quoted in detail when the present paper is published in its entirety.

In one of Dr. Lydston's specimens (Fig. 24) the degeneracy of brain type is shown by the shallowness of the cranial fossæ and feeble development of the ridges, lines and prominences of the interior surfaces of the skull. In a general way the same may be said of all the other specimens of the series, those which are not imperfectly developed being excessively developed in varying localities.

Criminal anthropologists lay great stress upon the capacity of criminal crania. Tabular comparisons of large

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\* "Transactions of the American Neurological Association, 1886."

numbers have shown some very interesting points. According to Lombroso the maximum of cranial capacity is met with in counterfeiters, the capacity in this class varying in different localities, but with two exceptions being greater in each locality than that of other criminals. Murderers and brigands are next in the scale. Thieves of the petty sort follow with a mediocre capacity, while the lowest is found among violators and incendiaries. These estimates are about what might naturally be expected in the various grades of criminality. The type of criminality varies with the degree of intellectual development and the latter depends to a certain degree upon physical conformation. The tables of E. Ferri confirm Lombroso's deductions. He finds the greatest capacity among those convicted of assault, the smallest among pickpockets and professional assassins. Criminals who have been repeatedly convicted (*recidivistes*) present, according to Ferri, a smaller cranial capacity and frontal diameter, with a larger development of the jaws than the average normal subject. The researches of Baroffio, Riva, Troyski, Roussel, Corré, Biliakow, Manouvrier and others are practically in accord with Lombroso and Ferri.

As compared with the researches of such investigators as those mentioned, our observations have been of a very general character and we have as yet been unable to obtain a sufficiently large series of measurements to permit of a tabulated comparison of normal and criminal crania. We have observed, however, many facts which appear to us of great interest, drawn from the study of criminals confined in a number of our penitentiaries.

The most striking features of the criminal skull as seen in American prisons is the tendency to brachy-cephalism and sub-micro-cephaly and the great frequency of cranial asymmetry. As far as our observations go, they tend to show that a degenerate type of skull is common among criminals and that the assertion of Lombroso that the deviation of type, as far as the index is concerned, is toward brachy-cephaly, is correct. The broad head is usually asso-



ciated with a relatively low vertical index, *platy-cephalie*; the long head with a high vertical index, *oxy-cephalie*, which, however, is more than compensated for by the long transverse diameter in the one and the narrow transverse diameter in the other (Figs. 24 and 33).

The direction of degeneracy is modified by racial characteristics. Thus in the case of the Chinese, characterized by a relatively high index, the tendency of degeneracy seems to be in the direction of a more pronounced brachy-cephaly, although an occasional example of the opposite index is seen. The dolicho-cephalic type, when degenerated, becomes in general more dolicho-cephalic, etc.

In considering the degree of degeneracy the question of compensating increase or decrease of diameter must be considered as affecting capacity. A glance at the original of Fig. 33 while living would doubtless have suggested a capacious cranium, but a measurement of the vertical and frontal diameters puts an entirely different complexion upon the status of the subject as indicated by cranial capacity. A glance at Fig. 24 shows a cranium which to a superficial observer might appear to have considerable capacity. Yet it is ultra-brachy-cephalic and even a proportionally exaggerated vertical diameter does not redeem it from sub-micro-cephaly.

A striking feature of the degenerate skull as illustrated by many skulls in the habitual criminal class is its peculiarly twisted conformation. The form suggests what might result if the skull were taken while soft between the hands and twisted in such a manner that all points of anatomical correspondence are thrown out of their normal relations. The result would naturally be an asymmetry in all diameters. Figs. 34 and 35 show this most admirably.

The researches of Dr Talbot in the jaws of the degenerate classes have been of extraordinary interest and are rendered even more interesting by our joint observations of the jaws of a large number of criminals. The types of

degenerate maxillary development are well shown by the appended drawings prepared by Dr. Talbot and will be expatiated upon later on.

Lombroso, Ferri and Manouvrier claim certain peculiarities of development in the criminal jaw. Exaggerated development, pre-eminently among homicides, is the especial feature commented upon by Lombroso. Ferri has found the greatest diameter of the jaws among homicides and petty criminals, the smallest among professional murderers and pickpockets. The jaws according to Ferri are not well developed among the insane, save those who are the subjects of impulsive monomania. This does not agree with Dr. Talbot's observations.

In our studies of criminals we have found that the most marked variations from the average normal type of cranial development occur among the habituels. We have made no attempt to select special cases bearing out this assertion, but have studied each case as it has been taken at random. We append a series of observations upon criminals, selected by a convict orderly from among the habituels and murderers in the Joliet penitentiary. In reply to his inquiry as to what kind of cases we wished to study, we remarked that we wished to see old-timers or habituels. He therefore selected the prisoners according to their criminal, with an entire disregard of their physical status, with the possible exception of several who happened to be on sick call. All complaints of subjective ailments were verified by the resident medical officers.

We present the history and description of eighteen of these, taken in regular order:

QBS. I.—White, male, American, aged 30 years. Has been committed twice for burglary. Was first committed at the age of twenty-two, since which time has been a confirmed criminal. Hereditary influences as a possible cause of delinquency not probable. Intemperance is admitted and is claimed to have had much to do with his moral degradation, and as he is markedly neurotic

this is highly probable. Syphilis is denied. Never experienced an injury until two years ago, when he received a severe fall with contusion of the head. This was followed by epilepsy, severe headaches, insomnia, deafness, defective vision in the right eye and pronounced right hemiplegia. Hearing normal. Mentality impaired. He is thin, anæmic and badly nourished. Was formerly right-handed but has acquired left-handedness since the accident.

The jaws, especially the inferior, are quite asymmetrical and the nose deflected, not from traumatism. Features very asymmetrical. Ears small, protuberant, pointed and asymmetrical, the left being the larger and more prominent. The septum nasi is thickened and greatly deflected. Cranium of medium development, of sub brachy-cephalic type and rafter shaped calvarium. Jaw, orthognathous. Occipital region very prominent and asymmetrical, the protuberance being markedly deviated to the left of the median line. Pronounced asymmetry of parietal development, the left eminence being very prominent and the right perceptibly flattened. Palate imperfectly developed with a V shaped arch.

OBS. II.—White, male, Irish, aged 27 years. Sentenced for arson. Committed for the second time, the first offense being robbery. Has led a criminal life since childhood, being addicted to petty and minor delinquencies for which he escaped punishment. Knows nothing of his parentage or family. Has never been addicted to drink. Admits syphilis. Is thin, anæmic and poorly nourished, says that he was never very strong. Right-handed. No lameness or deformity. Slightly deaf. Vision normal. Perceptive faculties somewhat blunted and mental processes sluggish. Is a melancholiac and suffers from severe headaches. Features noticeably asymmetrical. Nose perceptibly deflected and flattened, not traumatically. Septum thick, crumpled and on the right side enchondromatous, the right nostril being occluded. The ears are peculiarly deformed, the right being small, thick and crumpled, the left of medium size and very protuberant, handle shaped. Cranium large, ultra-brachy-cephalic, with platy-cephalic vertical index and resembling in its general outline the skull shown in (Fig. 33). To the left of the vertex the calvarium is flattened, but the left parietal protuberance is very prominent,

the entire left side bulging in outline. The right side is flattened and the parietal prominence slightly marked. The body of the occipital bone is very straight and flat, but the protuberance is disproportionally prominent. The facial outline is orthognathous, the jaw being of a pronounced retreating type and very asymmetrical. Palatal arch V-shaped.

OBS. III.—White, male, American, aged 40 years. Serving second sentence for burglary. Prior to first commitment had been sentenced for numerous petty delinquencies and had been tried on charges of burglary and acquitted on several occasions. History shows a bad heredity. Mother healthy, but father died of consumption and a sister is subject to fits. Has been addicted to liquor. Says that liquor is responsible for his life of criminality (?). Contracted syphilis eighteen years ago, which has troubled him off and on ever since. General appearance very fair, is well nourished and of good color. Right-handed. No lameness or deformity, but plentifully supplied with syphilitic scars. Is quite deaf and vision is so defective that he reads with difficulty. Suffers from tinnitus aurium. The facial contour of this man is very striking. There is such a marked disparity and asymmetry of the two sides of the face that it has the appearance of two halves of faces of different sizes joined together and by a bad artisan. Nose deflected markedly and septum twisted and malformed so that the left nostril is completely blocked. The ears are very asymmetrical and situated on different planes, the right ear being much the smaller and situated several lines higher than the left.

Cranium sub-micro-cephalic and very asymmetrical. The right side of the cranium is very perceptibly flattened and the parietal prominence feebly marked. The left prominence is very marked. The forehead is low and retreating. The narrow and contracted skull in this case is directly noticeable, but the index is sub-brachycephalic on account of the markedly sloping frontal region, which compensates in a measure for the narrow transverse diameter. The facial type is orthognathous. On examining the mouth, a high palatal vault of partial V shape, with pronounced saddle contour on the right and full curve on the left, are noted. There is marked faucial and pharyngeal asymmetry. There is a lateral

curvature, which accounts, in a measure, for the pharyngeal and faucial deformity.

An interesting feature of this case is that the subject suffered from constant and severe headaches until fifteen years of age. They then stopped, but were developed later in life by liquor. Has had them steadily for the last fifteen months and is suffering from insomnia—possible pachymeningitis syphilitica or alcoholica suggests itself in this connection.

OBS. IV.—White, male, German extraction, age 41. Serving time for murder. This case is most interesting as an example of illogical dispensation of law and of the physical basis of crime. The subject is typically neurotic; heredity bad, mother having died of cancer and her branch of the family being subject to various forms of nervous disease. Cause of father's death unknown, but he was known to have been a dissolute character. The subject under consideration was struck in the head with a hatchet when a child. Since the age of eight he has had epilepsy, the fits occurring sometimes every three or four days and at others at very long intervals. Has at times escaped them almost entirely for a year or two and has then brought them on by indulgences in liquor, to which he was addicted; subject to violent paroxysms of fury at all times under slight provocation; has been committed to the asylum several times; history would seem to point to the furor epilepticus as a cause for the murder which this man committed. A noteworthy fact is that this man is very artistic and spends much of his time in making artificial flowers. Syphilis is denied and no evidences of the disease are perceptible; subject is pale and anæmic; is right handed; vision normal, but is quite deaf in left ear; no deformity or lameness.

Features very asymmetrical, the right side of the face being much larger than the left. The nose is markedly deflected to the left, the septum being thickened, crumpled and deviated in the same direction. Ears very asymmetrical, the left being the larger, higher situated and badly formed. The right ear is very protuberant, imperfectly developed and crumpled.

Cranium of medium size, quite round and dome-shaped. Vertical index oxy-cephalic. Index markedly brachy-cephalic. The skull shows the same asymmetry as the face, the right side being disproportionally



developed and the right parietal eminence very large. The left side is flattened and the parietal prominence barely distinguishable. The arch of the jaw in this case is normal, but the development of the palate is defective and the rami defective in development.

OBS. V.—White, male, American, aged 37. Committed for the third time for burglary. Family history unknown save as regards mother, who died of cancer. Has had syphilis and has been intemperate since youth. Was hurt in a railroad accident in 1881. Prior to this time he had worked tolerably steadily, but since the accident he had drank harder than ever and had developed an uneasy, restless disposition, which made honest labor irksome and criminality attractive. General appearance fair, is well nourished.

Right-handed and has no lameness or deformity. Complains of tinnitus in the right ear, referable he thinks to the railroad accident. Vision and hearing normal. Face very asymmetrical, the right side being much the larger. Right malar prominence exceptionally marked. Left eye so disproportionally small as to attract the attention of the casual observer. Nose deformed and septum deviated to the left, but as the organ has been broken this point is not of great importance. Ears very small, crumpled and closely set, the left being much the larger and lower.

The skull is sub-micro-cephalic in capacity, oxy-cephalic in its vertical and brachy-cephalic in its cranial index. The right half of the cranium is the smaller, with the exception of the right occipital and mastoid regions, which are excessively developed. The left parietal eminence is very prominent. None of the aberrations noted were referable to the injury, except possibly the nasal deformity. The superior maxilla is V-shaped.

OBS. VI.—White, male, Irish, aged 50. Serving a five-year sentence for horse stealing. Served a six-year sentence twenty years ago for the same offense. Acknowledges repeated offenses for which he has never been punished.

Family history not clear, but says that father died of old age and mother of "fever sore" on her leg; has been intemperate since youth and has had severe syphilis; has had severe small-pox, with resulting great

disfigurement, not shown in the cut; general appearance fairly healthy; is very awkwardly built, "slab-sided" as the orderly expressed it; his gait is of the shuffling or shambling variety; is right-handed; is lame as a consequence of syphilis; hearing normal; vision has been impaired for many years; features very asymmetrical; the face is long and narrow and the chin pointed, but not prognathous; the left eye much smaller than the right, not properly shown in cut and the entire left side of the face imperfectly developed; the nose is slightly flattened and the septum deviated to the left, the nostril being nearly occluded; the ears



FIG. 1.

are asymmetrically developed, the left being the larger, most thickened, irregular and deformed; cranial index brachy-cephalic; vertical index platy-cephalic; the large size and disproportionate breadth of the cranium are very noticeable.

The cranium is asymmetrically developed. The right frontal eminence is very prominent. The left parietal prominence is very large. The calvarium is depressed at the right of the vertex. There is also a well-defined depression at the bregma. The right occipito-mastoid region is excessively developed. The generally twisted appearance of cranium already alluded to is well shown in

this subject. The jaws are saddle-shaped and the palate irregular and unevenly developed.

The actions and garrulous conversation of this subject showed him to be a paranoiac of a pronounced type. A glance at the physiognomy of this man, as shown in Fig. 2, is suggestive to the neurologist in this connection.

OBS. VII.—White, male, American, age 53. Sentenced for horse stealing. Had several sentences elsewhere and is serving a second term in Joliet. Family history not obtainable; had been occupied in farming and horse dealing, alternating with horse stealing most of his life; no history of syphilis or alcoholism; general appearance bad

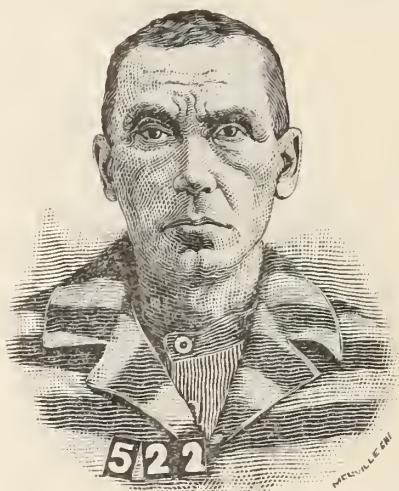


FIG. 2.

pallor and cachexia being pronounced; is right-handed; presents no lameness or deformity; vision and hearing normal; the features are very asymmetrical; the nose is quite straight, but the septum is deviated to the left, producing partial occlusion; the eyes are small, deep-set and somewhat of the slanting type peculiar to the Mongolian. This peculiar slant is most evident upon the right side; the right eye is also smaller and on a higher plane than the left. The difference in development of the two sides of the face is very marked, the right being the smaller. The left half of the inferior maxilla is much longer and straighter than the right. Hair has been very gray since quite a young man. The right ear is of moderate size,

of fair form and very closely set—the left is flattened, flabby and protuberant, “handle-shaped” and lower than the right.

Cranial capacity is meso-cephalic and cranial index sub-brachy-cephalic. The vertex is pointed, oxy-cephalic with marked depression upon each side of the median line. The left occipito-mastoid region is exceedingly prominent, the right being deficiently developed. The left parietal eminence is very prominent and the right poorly marked. Semi-V-shaped superior maxilla, lower maxilla well developed. This subject is an apt illustration of the irony of fate and the unintelligent administration of

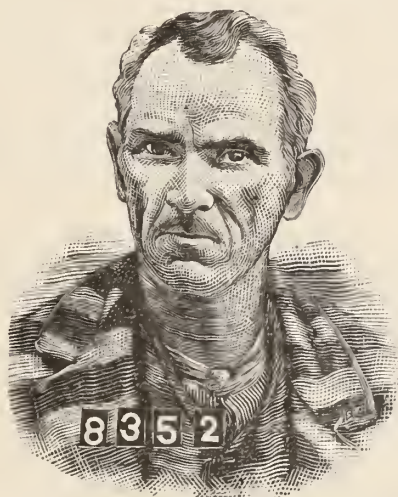


FIG. 3.

law. He is a paranoiac and affected with monomania of the religious delusional type. At times imagines himself Jesus Christ. He preaches in his cell to imaginary spirits, over which he imagines that he has control and regales his fellow-convicts with an occasional sermon on their wicked ways. His conversation is characterized by egotistical garrulity; is particularly desirous of impressing us with the idea that his magnificent head was designed for some great purpose which “died a-bornin’.” Like the preceding case, the physiognomy of this subject is to the alienist confirmatory of the foregoing remarks. Fig. 3.

OBS. VIII.—White, male, Swede, age 30; up for larceny, second conviction and acknowledges offenses for

which he was never punished; has worked at different trades and occupations, but labored steadily until he received the injury herewith described. Family history obscure; mother had some skin disease of a severe type; has been a moderate drinker; syphilis is denied; general condition fair; is somewhat anæmic; is right-handed; some years ago was caught in a railroad smash-up and sustained a fracture of the skull; several years ago had his arm caught in machinery and received a compound fracture of the forearm; was in hospital seven months.

Hearing greatly impaired; vision normal. The face is very asymmetrical, the right side being the better developed and the right half of the jaw especially prominent; nose of normal type; no deflection of septum; ears very asymmetrical, the left being the larger and more closely set and decidedly pointed; the right is of medium size and normal outline, but situated lower than the left; jaws square and well formed, but the hard palate is very asymmetrical; left palatal process much broader than the right.

The cranium is large, horizontal index brachy-cephalic; vertical index platy-cephalic; the frontal region is asymmetrical, the right prominence bulging decidedly; the parietal prominences are exceptionally well marked, the left being much the larger; the entire right half of the cranium is disproportionately well developed, with the exception of the parietal eminence; depression at site of old injury in parietal region. This subject, like the foregoing, should not be in prison. He is a paranoiac—has delusions of persecution, quarrels with imaginary enemies in his cell and has on one occasion attempted suicide by cutting his throat

OBS. IX.—White, male, American, age 59. Fourth commitment; offense, horse stealing; committed three times before on "general principles;" does not deny that said commitments were for the public good; heredity bad; father died of cancer of the stomach, mother was insane and died of consumption; says he does not give a "fake" history for the purpose of exciting sympathy—says his motto is: "Sympathy be d—d!" Has never been intemperate—says that he feared to drink on account of the insanity in his blood; syphilis is denied; had his head cut by a rock in Chester penitentiary years ago.

General appearance quite bad; is anæmic and poorly



nourished; was originally right-handed, but on account of lameness in joints of right hand has acquired the use of left; left arm is also lame from injury; joints are generally crippled by arthritis deformans; vision presbyopic; hearing normal.

The face is very asymmetrical, the right side being the larger; nose malformed and deflected to the right; septum deflected and presents a large perforation; ears of average development and symmetry; right ear a little lower than left; dental arches normal but inferior maxilla greatly flattened at angles and quite asymmetrical; cranium of average development; sub-brachy-cephalic index. Since the injury to his head this man states that he has "wild spells" when his mind is aberrated. These "spells" follow severe headaches.

This man, although uneducated, is quite talented, very bright and logically argumentative. His moral obliquity is evidently due to a bad heredity and lack of mental discipline. Under more favorable auspices he would have made a valuable member of society.

OBS. X.—White, male, German, age 31. Serving sentence for grand larceny. Has been in prison five times, this being his third term in Joliet. Heredity bad; father healthy but intemperate, quarrelsome and subject to violent fits of passion, which made him a "dangerous customer" at times. An only brother, though honest, is intemperate and a ne'er-do-well. Paternal grandfather said to have been a martyr to scrofula; has not been intemperate; syphilis denied, but states that he was very scrofulous as a child; extensive scrofulitic scars visible on neck and face; is still quite sickly, looks cachectic and badly nourished; is right-handed; no lameness or deformity; vision and hearing normal; facial asymmetry quite marked, the right side being much the larger. The nose is markedly deviated to the left and the septum much deformed and deviated to the right, producing almost complete occlusion. The left palpebral fissure much smaller than right; left eye perceptibly smaller than right; ears fairly symmetrical and well formed; cranium very large, index ultra-brachy-cephalic, vertical index platy-cephalic; fair degree of symmetry; left parietal eminence very prominent.

This subject has been affected with severe stammering since childhood; is frequently under treatment for

severe cephalalgia and has had since childhood what he terms "dumb spells," which we interpret as mental depression, probably associated with disturbed circulation.

The inferior maxilla in this case was poorly developed, orthognathous and very pointed; upper jaw presents a marked saddle-shaped arch.

OBS. XI.—White, male, Swede, age 27. Acknowledges habitual criminality, though serving first sentence; is in for highway robbery; heredity not shown; mother died of dropsy and father of pneumonia; intemperance and syphilis both admitted; no history of injury; general appearance fair; right-handed; somewhat lame in left leg—thinks that always was weak in this limb; vision and hearing normal; face asymmetrical, left side much the larger—left side of the lower jaw being extraordinarily prominent; left palpebral fissure and eyeball much smaller than the right; nose deflected to the right, with marked corresponding deviation of septum; ears very large, long, pointed and closely set; cranium sub-micro-cephalic with sub-brachy-cephalic index; oxy-cephalic vertical index.

Development of average symmetry. In his general characteristics this subject is a weakling and the crime for which he is doing time is inconsistent with his physique.

The jaws in this case are markedly deformed, the upper presenting a semi-V and the lower a marked saddle.

OBS. XII.—White, male, half-breed Egyptian, age 35. Serving sentence for horse stealing. Says that it is his first commitment, but his statements are contradictory and he has either been committed before or has led a criminal life without punishment; the family history is imperfect, as he was born in Egypt of a native mother and an American father. One brother is known to be insane but not criminal; has drunk periodically after he has had one of the "fits," to be described; syphilis denied; when quite a young man he enlisted in the American navy and served for some years; was finally discharged for disability, having been sunstruck while in the foretop, falling to the deck and sustaining severe head injuries, the scars of which still remain. After his discharge he suffered from epileptic fits at intervals of from a few days to a few weeks; is still suffering from these attacks and from severe headaches; criminal career began since injury (?).

General appearance excellent; right-handed; no lameness or deformity; head badly scarred from old wounds; vision and hearing normal; face fairly symmetrical; eyes equally developed; right side of face slightly the larger; nose not deformed, but septum deviated to the right with partial occlusion of nostril; ears very small, closely set and crumpled.

Cranium large and index sub-brachy-cephalic; development asymmetrical; right side much the larger; occiput unequally developed, right half being very prominent; left parietal eminence very large as compared with the right; jaws normal.

Degeneracy of physical type is not very pronounced in this subject. We consider the history of injury a very important point.

OBS. XIII.—White, male, American, aged 26; committed for the first time for forgery; acknowledges petty delinquencies before sentence for forgery; family history bad; father delicate, scrofulous and affected all his life with sore eyes; mother died of consumption; has been a steady but moderate drinker; syphilis denied; general appearance good; right-handed; vision and hearing normal; face quite asymmetrical, left half much the larger; left eye much smaller than right; nose straight and symmetrical, but septum markedly deformed; ears symmetrical, but very small and closely set; cranium of medium size and asymmetrical; index meso-cephalic; left occipito-parietal region disproportionately developed; right half of occiput flattened; protuberance situated seven mm. to the left of the median line; left parietal eminence very prominent.

Facial development marked; pronounced prognathism of inferior maxilla.

OBS. XIV.—White, male, Irish (typical imported criminal), aged 54; in for bank robbery on long sentence. This is one of the toughest specimens that ever broke into jail; he has done time in a number of prisons in America and served several sentences in England before being exported to this country by the generous British authorities; family history bad; father intemperate; both parents died of consumption while subject was very young; one brother died of consumption; has always been a hard drinker; has had syphilis; general appearance

very bad, is thin, sallow and badly nourished; has a chronic cough; is somewhat crippled by rheumatism, otherwise no lameness or deformity; hearing normal; vision impaired by age; face very asymmetrical, left side being disproportionately developed; left eye perceptibly the larger; right frontal prominence however, is bulging and prominent; nose badly deformed, septum enchondromatous and deflected and so badly deformed that it is visible externally; ears very prominent and pointed, the left is badly crumpled.

Cranium sub-micro-cephalic; index sub-dolicho-cephalic; fairly uniform development on each side, but right side much the larger.

Lower jaw small, prognathous and left half much the larger; upper jaw large with low arch.

OBS. XV.—White, male, Dane, aged 42; serving life sentence for murder; family history good; has never been intemperate and until the commission of the crime for which he is under sentence he was an honest hard-working farmer, distinguished only by a violent temper; the murder for which he is doing time was the result of a quarrel; has never had syphilis; general appearance excellent; right-handed; vision and hearing normal; no lameness or deformity; features asymmetrical, the preponderance of development being on the left side; nose deformed and deflected to the right; septum shows a corresponding deflection; ears asymmetrical, the right being pointed, closely set and of medium size, the left large, protuberant and lower set than the right.

Cranial capacity meso-cephalic; index sub-brachy-cephalic; pronounced asymmetry, the left side being the larger, the development of the left occipito-parietal region being especially disproportionate; the right parietal eminence is much larger than the left; the forehead is low and retreating; frontal prominence slightly marked on left side and absent on right; upper jaw excessively developed and prominent; arch semi-V-shaped; lower jaw prognathous and heavy and disproportionately developed on the left side.

OBS. XVI.—White, male, American, age 42. Serving a life sentence for a murder which had been committed in

a quarrel. Prior to this crime had been an industrious farmer. Family history unknown; alcoholism and syphilis denied; general appearance fair; right-handed; no lameness or deformity; is lame at times from rheumatism; vision impaired; hearing normal; nose well shaped; no deflection of septum; ears small, thin and closely set; cranium above the average capacity and fairly symmetrical; index brachy-cephalic; some flattening at the bregma and in the occipital region; upper jaw excessively developed and partial V shape; lower jaw massive and prognathous.

OBS. XVII.—White, male, age 17. This is one of the most melancholy cases which have come under our observation. The prisoner, a bright, handsome boy, having been sentenced for life for a murder committed while under the influence of liquor. The lad was raised on a farm and his family history is unexceptionable. Habitual intemperance denied; no history of syphilis; general appearance excellent but subject is plainly neurotic; is right-handed; no lameness or deformity; vision and hearing normal; facial development quite symmetrical save a little excess of development of the right half of the inferior maxilla; nose slightly deviated, with some deflection of septum; ears large and protuberant (*oreilles à auge*); capacity of cranium meso-cephalic. Practically no asymmetry, the form of the cranium being better than the average normal type. The lower jaw is asymmetrical as above noted and the upper jaw presents a partial V.

OBS. XVIII.—White, male, American, age 61, doing time on fourth commitment. Last offense burglary and arson. Family history unknown. Was evidently a vagabond in early life but was never convicted of crime and he states was never delinquent until 1871, since which time he has been in jail off and on—in fact for the greater part of the time. Intemperance and syphilis is denied. Drifted into the army in his early manhood and was several times wounded. Is lame from a saber cut in the left leg and head shows a large scar from a saber cut received in '63.

General appearance excellent; vision and hearing normal; right handed; has been gray for many years; face fairly symmetrical; nose slightly deflected but septum well formed; ears well formed; cranial capacity meso-



cephalic; index brachy-cephalic; asymmetry not very pronounced; left parietal eminence disproportionately prominent; occipital region exceptionally flat; mastoid prominences excessively developed; normal arch in upper jaw; lower jaw very prominent, heavy and prognathous.

The foregoing cases might be multiplied from the material at our command, but they are amply sufficient as indicative of what may be found among the degenerate classes met with in our American prisons. A glance at these cases plainly shows the physical degeneracy and often the bad heredity of the subjects. A noteworthy fact is that the cases which most nearly approximated the normal type of development were in sporadic criminals, of which the young lad (Obs. XVII.) is an example. It will be noted that a number of the series were of foreign birth. As before remarked, it will be found that the most markedly aberrant types are seen in the imported criminal. This is instructive as explanatory of some of the apparently dogmatic claims of European criminal anthropologists. We have found that left-handedness is not so common among American and foreign American criminals as has been claimed by these authorities. Among 400 criminals in the Joliet penitentiary but one per cent. were found to be left-handed. Dr. Lydston found but about two per cent. among the criminals in the New York City prison. Obviously a much larger number of observations would be necessary to determine this point.

Regarding deviations of the form of the nose, ears, etc., we are well aware that these aberrations of development are frequent among normal individuals, or at least those reputed normal. We do not believe, however, that so large a proportion is observable in normal as in criminal subjects. It is to be remembered, moreover, that degeneracies of development are present in many otherwise normal subjects, whose *morale* is such that no delinquencies have occurred. We have nothing to do with the co-relation of criminal tendencies with osseous aberrations save in a gen-

eral way, *i. e.*, we advance only the proposition that, *cæteris paribus*, cerebral degeneracy is to be expected in cases where the osseous framework is markedly aberrant. The same influences govern the development of both nerve and bone tissue, hence like results are to be looked for.

The history of alcoholism in criminals is to be studied very carefully. "I was drunk when I did it," is the old familiar plea and to be taken *cum grano salis*. Alcohol often develops inherited or innate acquired tendencies; seldom, in our opinion, is it a cause of criminality, *per se*. It is the touchstone—the crucial lymph—that brings out the inherent infection of madness, crime or bestiality. Heredity is the latent power and alcohol the potential energy that drives the arrow to the mark.

Very little has been written upon the subject of aberrant development and asymmetry of the skeleton. In looking up this subject a few years ago in the medical library at Washington, only twenty-four cases could be found in foreign and American literature. The only work treating upon this subject has lately been issued by Dr. Sutton, of England, and this but only elementary in character. It is a singular fact that in the study of the defective classes the attention of scientists has been almost wholly confined to the study of the brain. The most interesting portion of the subject, asymmetry of development of the osseous framework, has been almost entirely neglected. The study of the development of the bony structure through the medium of the defective classes opens up a field for investigation which is decidedly interesting. That the brain is defective in the flotsam and jetsam of humanity has come to be generally accepted. The question now is, "Does a defective brain influence the development of the tissues of the body, or is it coincidental with defective development in general and if so, to what extent?" We must assume that if the

tissues in one part of the body are affected by faulty nervous structure, the tissues in other parts may also be affected. We must also assume that if the tissues on one side of the body are arrested in their development, as a consequence of trophic derangement, the tissues of the opposite side may also be arrested or excessively developed from the same cause. It is more difficult to observe this asymmetry of development of the body in general, because of the distance of the parts from each other, than to observe the inequalities of the cranium and maxillæ. Here we have the lateral halves in such close proximity that even a casual glance by an accustomed eye will recognize the smallest deviation in the bones of the head, face and jaws. We would naturally, therefore, select the cranium and maxillæ for an accurate examination.

In the degenerate classes in general, there is a certain degree of similarity of aberrations of type of cranial development. In idiots and the insane, as well as in the habitual criminal, we observe micro-cephalic as well as macro-cephalic crania. In such cases the jaws may become well developed or arrested according to the degree of the development of the skull, although sometimes independent of it. Asymmetry is very marked in these individuals, especially in the hereditary and habitual criminal.

Although prepared to find a goodly proportion of atypical conformations of the jaws and teeth among criminals, our observations gave results which were a little surprising.

There were 477 criminal subjects examined, of whom 468 were males and 9 females. Of the whole number 3 were Chinese, 18 were negroes and the remainder were whites, the latter representing many nationalities.

The following table shows the different deformities of the jaws and teeth that were found:

## DEFORMITIES OF THE JAW AS SEEN IN CRIMINALS.

No.	Sex.	Normal.	Large Jaw.	Protrusion Lower Jaw.	Protrusion Upper Jaw.	High Vault.	V-Shaped Arch.	Partial V-Shaped Arch.	Semi-V.	Saddle Shaped Arch.	Small Jaw.	Partial Saddle.	Semi-Saddle.
468	Male	163	66	17	5	70	13	79	19	59	30	92	24
9	Fe-Male	9	9	..	..	..	..	..	..	..	..	..	..
Percent-age.....		36.06	15.72	3.56	1.04	14.67	2.70	16.56	3.98	12.36	6.29	19.28	5.03

In the majority of the cases the jaws of the negroes were well developed. One had a partial V-shaped arch, one a saddle, one a V and in one the left body of the lower jaw was found to be much smaller than the right. The bones of the head and face were also well developed. The three Chinese were all sub-micro-cephalic, with very small jaws and two of the three had saddle-shaped arches. It is worthy of note that the nine females examined had large and well developed jaws with normal arches.

In no part of the osseous system is arrested and excessive development so conspicuous as in the superior and inferior maxillæ. In this region, therefore, we would naturally expect to meet with the aberrations of degeneracy. The reason for this lies in the fact that while the inferior maxilla is developed independently of the other bones of the skeleton and attains its normal size by exercise, the superior maxilla, being a fixed bone, is dependent upon the various influences which govern ossification of the bones at the base of the skull and determine whether such ossification shall be defective, excessive or normal. Some of the causes of aberrant development are inflammation of the part in utero, hereditary taints, eruptive fevers and other constitutional diseases.

It is a singular fact that most of the deformities of the jaws and teeth are confined to the superior maxilla. When deformities of the inferior maxilla occur, they consist in either excessive or arrested development of the bone, while irregularities of the lower teeth are always

due to local causes, such as the influence exerted by the irregular teeth on the upper jaw when coming in contact with them in the act of mastication. Deformities of the jaws, as already observed, are more noticeable to the casual observer than deformities of other osseous structures, because they are in closer proximity to each other than the outlines of the lateral halves of the rest of the body and because any deviation from the normal occlusion of the teeth can be detected at a glance.

The deformities of the jaw proper which we have observed in the criminal classes are fixed and definite in character and few in number, while those of the alveolar processes and teeth are numerous and variable.

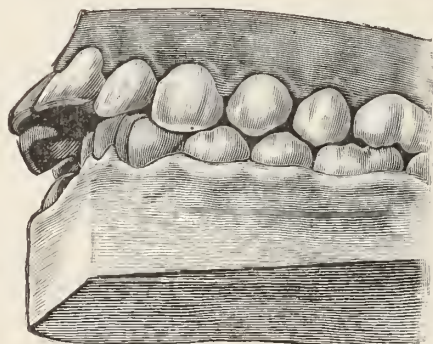


FIG. 4.

The deformities of the jaw proper consist of excessive or arrested development of one jaw, while the other may be normal, or, one may be over-developed and the other stunted. Sometimes the right side of one jaw will be normal while the left side will be either excessive or arrested in development. In other cases the two sides will present different forms of development. Again, one may frequently observe a lower jaw with a normal body while the rami are arrested or excessively developed, or the reverse may be found, *i. e.*, normal rami, with an arrested or excessive development of the body.

Fig. 4 illustrates the condition of excessive development of the upper jaw, as seen in Obs. XIV. The jaw,



alveolar process and teeth protrude to such an extent that when the jaws are closed the individual is unable to close the lips.

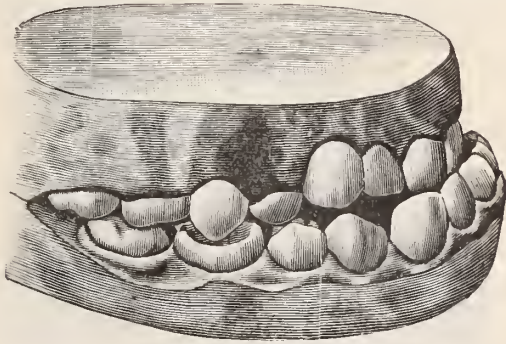


FIG. 5.

Fig. 5 illustrates excessive development of the body of the lower jaw, as seen in Obs. XIII.—XVIII. and in one of the negroes. This deformity is called an "over-bite." The lower teeth protrude and shut outside the upper, which is the reverse of normal occlusion.

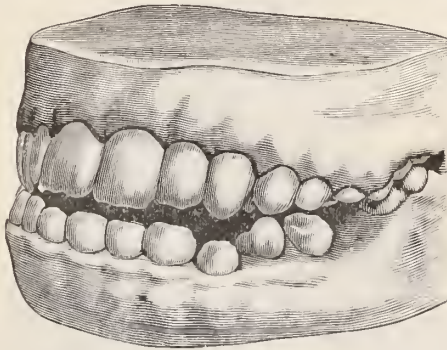


FIG. 6.

Fig. 6 illustrates arrest of development of the rami of the jaw, as seen in Obs. IV. The borders of the alveolar processes, which contain the teeth, are not parallel and as a result when the molars make their appearance at the twelfth year, the anterior part of the jaw is forced open.

Fig. 7 illustrates arrested development of the superior maxilla, producing a deformity similar to that seen in Obs. XIII. and XVIII. There is no protrusion of the anterior superior alveolar process and teeth, owing to the absence of the germs of the lateral

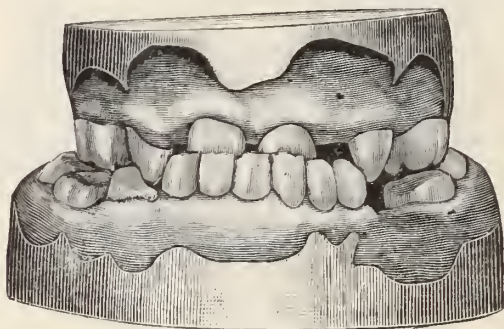


FIG. 7.

incisors and bicuspid, hence these teeth are wanting. The result is that all the superior teeth that are in place shut inside the lower teeth. When arrest of development of the superior maxilla takes place and

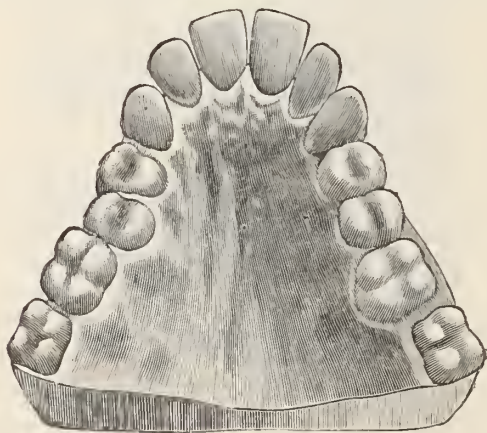


FIG. 8.

all the teeth are present, two forms of deformity of the jaws and teeth are always observed. The V-shaped arch (Fig. 9), as seen in Obs. V. and XVIII. and one of the negroes and the saddle-shaped arch (Fig. 8), as seen in

Obs. VI., X. and XVIII. and also in one of the negroes. The V-shaped arch is always contracted anterior to the cuspid teeth, while in the saddle-shaped arch the arch is contracted posterior to them.

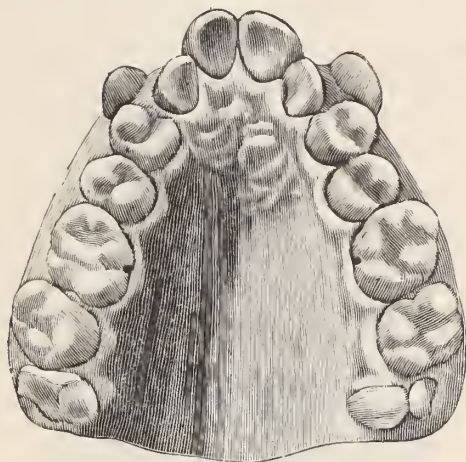


FIG. 9.

These peculiar deformities commence to form at about the eighth year, *i. e.*, these deformities are produced while the permanent teeth are erupting. The reason for this



FIG. 10.

formation is that the long diameter of the jaw is not large enough to contain the long diameter of the teeth. The peculiar variety formed depends upon the time and order

of the eruptions. It frequently happens that the teeth upon one side will erupt in their natural manner and at the proper time, in which case the jaw and teeth upon that side will be normal. The other side, owing to premature extraction on the one hand, or on the other to delay in removing the temporary teeth, will form either a semi-V-shaped arch (Fig. 10), as seen in Obs. I., II., III., VII., XI., XV. and XVI., or a semi-saddle-shaped arch (Fig. 11), as seen in Obs. III., which had a semi-V on one side and a semi-saddle on the other.

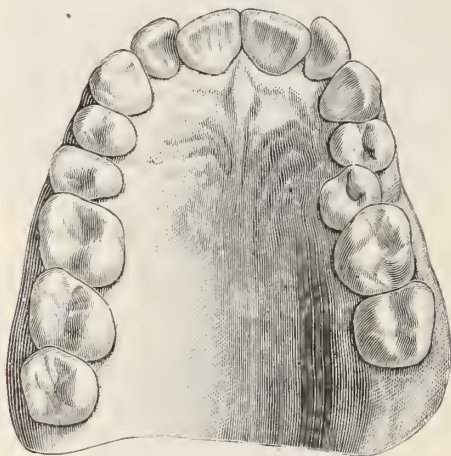


FIG. 11.

The foregoing illustrations represent the types of aberrant development of the jaws and teeth, as met with in the degenerate classes and can be readily verified by even a superficial examination of the criminal classes. As far as their accuracy as illustrative types is concerned, they are fairly representative of the various types of deformities as outlined by Dr. Talbot, from a careful study of nearly 4,000 irregularities of the teeth.

It is our fortune to be able to present in this paper a series of illustrations of specimens showing the aberrant types and asymmetry found in degenerate skulls and especially those of criminals. These specimens are

exceptionally interesting from the fact that they have not been selected from among a large number, but have been picked up here and there by non-scientists solely for their morbid and historic interest, having subsequently fallen into Dr. Lydston's hands quite by accident. It is worthy of comment that even the remarkable series depicted in Lombrose's "Atlas" does not present such markedly aberrant types as this comparatively small series of studies; indeed, a search among several thousand skulls would not be apt to bring to light such peculiar types of conformation as the crania which we present. The illustrations are from photographs and are exceptionally accurate.

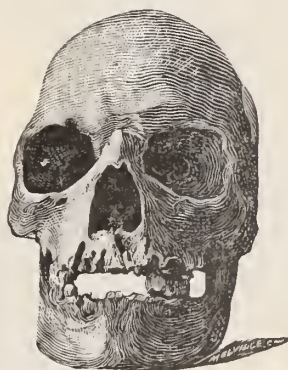


FIG. 12.—Front View of Extreme Dolicho-cephalic Cranium.

The specimen first to be described is one of the most interesting crania which we have had the privilege of studying. The subject was a negro criminal of the petty class, who spent most of his time in correctionary institutions. As might be inferred from the extremely degenerate type of cranial development which is here exhibited, he was of a very low grade of intelligence. After a very precarious existence this negro committed suicide.

In viewing this skull from the front, one is at once struck by the immensely powerful maxillary and malar development as contrasted with the remainder of the



cranium. The orbits are relatively very capacious. The superior maxilla is relatively poorly developed, at least as compared with the lower jaw. Rarely, indeed, is such an inferior frontal development found associated with such a pronounced facial development.

As will be seen in connection with the specimen of brachy-cephalic degeneracy shown in Figs. 33, 34, 35, the frontal development in this narrow type of skull may be vastly better than some specimens with a decided tendency to the brachy-cephalic type. The skull at present under consideration is the most marked specimen of the dolicho-cephalic cranium which we have seen. As the horizontal index in this case is 59.9, the extreme variation according to Isaac Taylor and others being from 58 to 98, the extreme type of this skull is at once obvious.

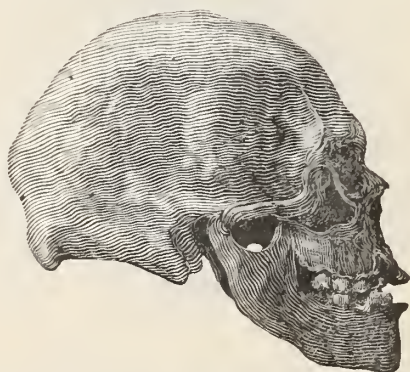


FIG. 13.—Lateral View of Extreme Dolicho-cephalic Skull.

On viewing this skull laterally, its strong similarity to the anthropoids is very striking. This is especially marked with respect to the development of the mastoids and the occipital protuberance; the position of the latter is quite an anomalous one and the occipital bone is almost horizontal. Despite its extraordinary development, the occipital is relatively small, both transversely and in its vertical measurement. The distance from the posterior border of the foramen magnum to the superior occipital angle is only 103 mm.

On contrasting with any of the other crania of the series, the relative shortness of the occiput is very noticeable. For example, Fig. 22, which is a rather small specimen, distinguished rather by the symmetry than the extent of its development, shows an occiput measuring 130 mm. from the foramen magnum to the superior angle of the occipital bone.

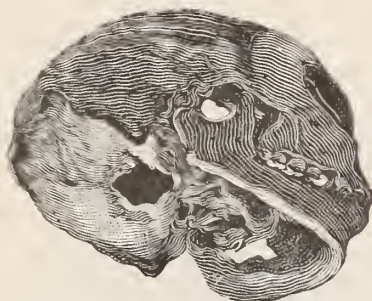


FIG. 14.

Fig. 14 shows the inferior surface of this dolicho-cephalic specimen and brings out the massive development of the processes and muscular attachments at the base of the skull. It is evident that the muscles of the neck in this case were immensely powerful, a *sine qua non* where the leverage for muscular action is so short as in this particular occiput. The facial type in this specimen is markedly prognathous as regards both upper and lower jaws.

The *tout ensemble* in this case is strongly suggestive of a reversion to the anthropoid type, which is often the distinguishing characteristic of the degenerate Ethiopian type, criminal or otherwise.\* The following are the

\* Dr. Lydston has found in comparative studies of crania that the plane of the occipital bone is of some importance as bearing upon differentiation. In the anthropoids the relative shortness and horizontal direction of the occipital bone is very striking—especially is this true of the basilar process. In the degenerate types of human crania, or, at least, in the atavistic types, there seems to be a direct relation between the length and angle of the basilar process and intelligence. Dr. Clevenger called attention to the angle of the medulla as bearing upon intelligence, years ago, but Dr. Lydston's observations, although confirmatory of those of Clevenger, were made independently, as he had not had access to the work of the latter.

measurements of this exceedingly interesting cranium:

Horizontal index,	- - - - -	59.9
Circumference,	- - - - -	48.4 c.
Anterior demi-circumference,	- - - - -	21.3 c.
Posterior demi-circumference,	- - - - -	26.9 c.
Bi-zygomatic diam.,	- - - - -	13.3 c.
Longitudinal diam.,	- - - - -	196.5 mm.
Transverse diam.,	- - - - -	122 mm.
Vertical diam. (vertex to foramen magnum),	- - - - -	132 mm.
Occipito-mental diam.,	- - - - -	241.5 mm.
Bi-frontal diam.,	- - - - -	95 mm.
Bi-mastoid diam.,	- - - - -	114 mm.
Over vertex, from ear to ear,	- - - - -	317 mm.
Ant. bord. foramen mag. to sup. occipital angle,	- - - - -	103 mm.

The excessive development of the jaws and alveolar processes in this specimen are such as are generally observed in the negro races, in whom the jaws are usually well developed and rarely deformed. The only noticeable feature of this particular specimen is a high palatal vault.



FIG. 15.—Skull of Mongolian suicide (Brachy-cephalic).

The next specimen is not especially noteworthy from the stand-point of degeneracy, being interesting chiefly on account of its peculiar history and its exceedingly fine

development. It is, however, an excellent illustration of the brachy-cephalic cranial type.

The subject was a Chinese cigar-maker, of Chicago, who is remembered to have been thoroughly civilized and quite prosperous. Physically, he was a fine, well-developed and handsome fellow. He became engaged to a white girl, whose Mongolian affinity weakened at the last moment and this preying upon his mind, impelled our Mongolian friend to shoot himself. This was noteworthy, as he was the first Chinaman in America to commit suicide and there has been but one since, as far as we can learn. The peculiar religious



FIG. 16.—Skull of Mongolian suicide (Brachy-cephalic).

belief of the Chinese explains the rarity of suicide among those in America.

The contrast between the negro skull, Fig. 12 and Fig. 16 is very striking and obvious to the most careless observer. A front view of this specimen shows a splendid development of the jaws and teeth. We have never seen a finer or more regular set of teeth than this. Like the negro race, the Chinese is characterized on the average by well-formed and strong jaws and teeth.

The characteristically excessive development of the facial and jaw bones among the Chinese is well shown by a lateral view of this skull. The disproportionate

development of the face and jaws in this instance is however, much above the average Mongolian skull. By comparing the two views the brachy-cephalic type of the cranium is readily observed. By comparing the views of this cranium with those of the negro shown in Figs. 12 and 13, one may observe the wide difference between the extreme types of high and low cranial indices. This is nowhere better shown than by a comparison of marked Ethiopian and Mongolian types.

On examination of the crania of more degenerate types among the Chinese it will be found that the tendency is towards a high cranial index. The tendency of the degenerate types of a brachy-cephalic race to become more brachy-cephalic and that of a dolicho-cephalic race to become more dolicho-cephalic is peculiar, but is borne out as far as our opportunities for study have permitted us to observe.

Aside from a change in the cranial index there are seen, among negroes particularly, many peculiar aberrations of form, one of which is shown in Fig. 28. The palatal arch in this Mongolian specimen is high and the alveolar processes excessively developed. The measurements of this skull are:

Horizontal index,	-	-	-	-	-	-	83.9
Circumference,	-	-	-	-	-	-	50.6 c.
Anterior demi-circumference,	-	-	-	-	-	-	29.4 c.
Posterior demi-circumference,	-	-	-	-	-	-	21.2 c.
Longitudinal diam.,	-	-	-	-	-	-	174 mm.
Transverse diam.,	-	-	-	-	-	-	146 mm.
Vertical diam.,	-	-	-	-	-	-	145 mm.
Bi-mastoid diam.,	-	-	-	-	-	-	127 mm.
Bi-frontal diam.,	-	-	-	-	-	-	96 mm.
Foramen magnum to superior occipital angle,							139 m.

The next specimen presents some extraordinary features. It is the skull of a celebrated negro panel-worker, confidence-operator and desperado, who, at the time of his death, was the consort of a notorious courtesan who flourished in Chicago some years ago.



This individual, after some years' dalliance with the law without especial harm to himself, was finally knifed in a brawl. A front view of the cranium shows the ordinary and characteristic negro facial type, with the exception, perhaps, that the bones are exceptionally massive and well developed. Unfortunately the inferior maxilla is absent, a fact which we greatly deplore, as the general cranial development suggests to us the probability that the missing part presented some very interesting features for consideration. A lateral view of this cranium shows the ordinary dolicho-cephalic negro type. The cranial index is low, being 72.1. A compari-



FIG. 17.—Negro Panel-worker (Dolicho-cephalic).

son with Fig. 12, however, shows the extreme degeneracy of type in the latter to great advantage.

A view of this skull (Fig. 18), after a section of the calvarium has been removed, shows its most interesting features. Skulls of such extreme thickness, even among negroes, are rarely met with. The consistency of the bone in this cranium is very dense and hard and traditionally this negro, while alive, was noted for his butting propensities. Violent contact with such a skull would be apt to damage the fist of a Sullivan. Indeed, it is said that this fellow rather enjoyed the impact of a policeman's club.

We will state at this point that we are of the opinion that the massiveness of bony development in this case is

not due to disease. The general character of the overgrowth and the consistency of the bone would seem to support this view. Syphilis may produce thickening of the cranial bones, as some of Virchow's specimens show, but syphilitic bone does not present the characters and uniformity present in this case.

At the densest part of the calvarium this specimen measured 13 mm. in thickness, its average thickness being 11 mm. A comparison with Fig. 21 readily shows how



FIG. 18.—Negro Panel-worker (Dolicho-cephalic).

phenomenal the osseous development in this case is. The cranial measurements are :

Horizontal index,	- - - - -	71.1
Circumference,	- - - - -	47.8 c.
Anterior demi-circumference,	- - -	25.4 c.
Posterior demi-circumference,	- -	22.4 c.
Longitudinal diam.,	- - - - -	181.5 mm.
Transverse diam.,	- - - - -	131 mm.
Vertical diam. (vertex to foramen magnum),		128 mm.
Bi-frontal diam.,	- - - - -	95 mm.
Bi-mastoid diam.,	- - - - -	113 mm.
Bi-zygomatic diam.,	- - - - -	126 mm.
Anterior border of foramen magnum to sup. occipital angle,	- - - - -	117 mm.

The upper jaw and alveolar process in this skull is well developed, the only peculiarity being a low palatal vault.

Figs. 19 and 20 show the skull of a once notorious



FIG. 19.—Skull of prostitute (Dolicho-cephalic).

member of the Chicago *demi-monde*. She was a very tall woman of mixed Indian and white blood. The cephalic index shows what might be inferred from the appearance of the cuts—a decidedly dolicho-cephalic type and a peculiar outline. This specimen is the most symmetri-



FIG. 20.—Skull of prostitute (Dolicho-cephalic).

cally developed of the series, with the exception of the Sioux squaw, next to be described and whether co-incidental or not, the fact remains that this subject presented a higher type of intellectuality while living than any of

the other subjects embraced in this essay. The skull is, nevertheless, of a degenerate type, as shown by its extreme tenuity and its markedly dolicho-cephalic index.

Fig. 21 shows the extreme thinness of the calvarium, which was at the point of section only 3 mm. in thickness. A striking feature of this skull is its freedom from prominences, its surface being uniformly smooth and rounded. In this respect the specimen differs greatly from another cranium of a prostitute in the 'same series' which we have examined, but of which, unfortunately, we have no illustrations. In this case there was an excessive development of the occipital bone, the enlargement being symmetrical and most marked upon the left of the median line. The right parietal eminence was excessively and disproportionately developed. The cranial index was markedly dolicho-cephalic.

The principal measurements of the skull at present under consideration are:

Horizontal index,	-	-	-	-	-	67.09
Circumference,	-	-	-	-	-	51.2 c.
Anterior demi-circumference,	-	-	-	-	-	22.9 c.
Posterior demi-circumference,	-	-	-	-	-	27.3 c.
Longitudinal diam.,	-	-	-	-	-	190 mm.
Transverse diam.,	-	-	-	-	-	130.5 mm.
Vertical diam.,	-	-	-	-	-	128 mm.
Bi-frontal diam.,	-	-	-	-	-	88.5 mm.
Bi-mastoid diam.,	-	-	-	-	-	71 mm.
Bi-zygomatic diam.,	-	-	-	-	-	130 mm.
Anterior border foramen magnum to ant. sup. occipital angle,	-	-	-	-	-	116 mm.

The jaw in the case is poorly developed but fairly well formed. In regard to the extreme tenuity of the skull, we do not believe that it is the result of pathological change. The general lightness of the bones and the symmetry of the skull are not consistent with the existence of such bone changes as might produce absorption and thinning. The markedly dolicho-cephalic type of

this skull is interesting in view of the strain of Indian blood in the subject. As has already been observed, the degenerate type in dolicho-cephalic crania is in the direction of a still lower index and in this instance the admixture of Indian blood evidently determined the degenerative type. This observation would appear to be contradicted by the case outlined in Figs. 12, 13, 14. In this case, however, there was an admixture of negro and Mexican blood, with a resultant degeneracy of form in general as well as in the cephalic index. This case, in fact, partakes in some respects of the character of a



FIG. 21.—Skull of prostitute (Dolicho-cephalic). Calvarium partially removed.

teratological rather than an atavistic type, *per se*—at least as far as the facial development is concerned.

A comparison of the prostitute's skull with the female Indian type next presented shows a marked difference in the cranial index, the disparity being 7.07. Even the negro in Fig. 17 is less dolicho-cephalic than this specimen. The next specimen, the cranium of a full-blood squaw of the Uncpapa Sioux, who was the wife of one of the leading malcontents in the recent Indian outbreak and consequently of the better type of Indian development.



This specimen is exceptionally symmetrical and moderately dolicho-cephalic. Aside from the purposes of contrast, there is little of interest to be said of it in connection with the present series. The subject was as intelligent as the better class of her people average and



FIG. 22.—Skull of Sioux Squaw (Dolicho-cephalic).

there is nothing to be said regarding her from the moral stand-point. Indeed, as the saying goes, the shoe might be on the other foot, as the Indian estimate of the Caucasian grave-robber is not a high one, as evidenced by his treatment of the desecrator of the Indian burial-places



FIG. 23.—Skull of Sioux Squaw (Dolicho-cephalic).

when the latter happens to be caught. However, as our connection with the aforesaid desecration is very remote, we trust that our red brother will extend his forgiveness.

Fig. 23 shows the same skull in lateral view. Its

symmetrical outline is quite evident. The measurements are as follows:

Horizontal index,	-	-	-	-	-	74.16
Circumferential,	-	-	-	-	-	51.2 c.
Anterior demi-circumference,	-	-	-	-	-	26.6 c.
Posterior demi-circumference,	-	-	-	-	-	23.8 c.
Longitudinal diam.,	-	-	-	-	-	161 mm.
Transverse diam.,	-	-	-	-	-	152 mm.
Vertical diam.,	-	-	-	-	-	140 mm.
Over vertex from ear to ear,	-	-	-	-	-	318 mm.
Occipital protub. to root of nose,	-	-	-	-	-	293 mm.
Bi-mastoid diam.,	-	-	-	-	-	121.5 mm.
Bi-frontal diam.,	-	-	-	-	-	96 mm.
Anterior border foramen magnum to superior						
occipital angle,	-	-	-	-	-	130 mm.

The superior maxilla presents arrested development. The vault is of medium height and the alveolar processes well developed. It will be found that in the Indian, as in all primitive races, a well-formed palate and regular teeth are the rule. It would be interesting, at some future time, to study the effects of civilization of the Indian in this regard.

The rule regarding the development of the jaws in the primitive races, has had especial stress laid upon it by Dr. Talbot, in his work on irregularities of the teeth and jaws. Dr. Lydston, however, is of the opinion that the exceptions to the rule are much more numerous than Dr. Talbot would have us believe. Comparative studies of primitive crania and jaws show some very interesting facts. Among the older Egyptians, relatively small, oblique, narrow and pointed jaws, associated with relatively large and symmetrical cranial development were not infrequent. Arrested or excessive development of the facial bones was not rare. Among the skulls of the older Romans, skulls with peculiar obliquity of the occipital plane and angular outline of the occipital parietal

regions are to be found. It is also highly probable that maxillary aberrations were not infrequent.

Specimens of Polynesian skulls show numerous examples of excessive and defective maxillary development. In as primitive a type as the Malay, excessive development of the inferior maxilla, with resulting extreme prognathism, arrested development of the superior maxilla and excessively high vault may be met with.

Among the mound-builders aberrations of cranial and maxillary development were frequent. Posterior flattening is frequent but not typical. Extreme oxy-cephaly and platy-cephaly are to be found in certain of these skulls. Arrested and excessive development of the jaws is often met with.

The Esquimau type of jaw is varied by excessive breadth, great narrowing and marked obliquity on the one hand, or angularity on the other. A peculiar aberration occasionally seen is a flaring out of the lower border of the rami. This is usually associated either with the broad and angular type. The result is a most striking "jowl."

Specimens of Aleut and Alaskan skulls also present aberrations of maxillary type.

Among the American Indians similar aberrations are to be seen. The Modocs, now almost extinct, showed pronounced variations of cranial and maxillary development; the teeth, however, were usually strong and well formed, as is typical of our native races. The crania of the native Californians of the lower types, the probable progenitors of the Piutes, Shoshones and Diggers, present marked and frequent cranial aberrations, associated often with excessive or defective maxillary development. Prognathism is frequent. The almost typical maxillary characters of this degraded race are extreme obliquity and slightly marked angles of the inferior maxilla; so pronounced is this feature that the jaw is almost symmetrically curved. This type of jaw is interesting as bearing upon the theory of the relation of jaw conforma-

tion to character; the California Indians of the lower grades are the most degraded specimens of humanity imaginable. Ethnologists give the bushman a low mark enough in this respect, but he must yield the palm to the American Digger.

The Sioux present great variation of type of cranial and maxillary development. The great variation of orbital indices is striking and lends color to the suspicion that the importance of the orbital index as a criterion of race is a bit overdrawn.

Independently of mechanical causes there appears to

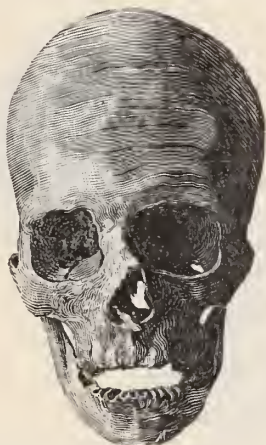


FIG. 24.—Half-breed Mexican and Negro (Ultra-brachy-cephalic).

have been great variation of type among the older Peruvians. Superior and posterior flattening and enormous development of the parietal eminences were frequent.

These aberrations tend to limit the application of the rule which Dr. Talbot has advanced regarding the pure races.

The next cranium which we will describe is the most remarkable of the series and in many respects presents phenomenal characters.

The subject was a half-breed Mexican and negro, who had left Mexico—his native country—for the good

of his compatriots. While he had never distinguished himself by any startling act of criminality and had managed to keep himself out of the clutches of the law, he was identified with the petty criminal class which forms a prominent portion of all social systems and with which Mexico is especially infested. He finally died in a public hospital, as a result of some acute disease with cerebral complications. The general physique of this man was very fair, although he presented a generally overgrown and loose-jointed appearance. When alive he was a very peculiar looking specimen



FIG. 25.—Half-breed Mexican and Negro (Ultra-brachy-cephalic).

indeed, the dome-shaped appearance of his cranium being exaggerated by a luxuriant crop of kinky wool, several inches in length, that stood straight out from his head. From a mental stand-point he was up to the average of the negro race, but morally speaking he was decidedly degenerate. One of his prominent characteristics was a very irritable and irascible temper.

This cranium, as is well shown in the appended illustrations, is most markedly brachy-cephalic; indeed, its circumferential outline is almost perfectly round, its longitudinal and transverse diameters being nearly equal. The term dome-shaped is as nearly accurate as possi-



ble from a descriptive stand-point. It is a singular fact that the degenerate type of the African skull often presents the oxy-cephalic or rafter-headed type, even when the dolicho-cephalous index is pronounced. These rafter heads are often seen.

The skull at present under consideration is, as already remarked, a distinctive dome shape, which corresponds not at all with the rafter head.

The peculiar conformation in this case is evidently not the result of pathological conditions or mechanical pressure. The vault of the cranium is quite symmetrically developed, although the base of the skull is decidedly asymmetrical, as will shortly be shown. We



FIG. 26.—Outline of Ancient Peruvian Skull Mechanically Deformed.

know of no mechanical means which might have caused the peculiar dome-like form of this specimen, and we have been unable to find mechanically deformed crania of a similar type. Such deformities as those presented by the Chinook or Flat-head Indians are quite familiar types of skulls mechanically deformed. Certain specimens found in ancient Peruvian graves are almost precisely identical with the characteristic Chinook type and show a probably common origin of the two races. This type is fairly well shown by the conventional outline of Fig. 26.

There are several interesting features in connection with the skull under consideration: One of the most striking is the extreme shallowness of the orbits. This

is well shown by comparison with some of the other types already described, the measurements being one and three-quarters inches from the upper margin of the orbit to the optic foramen, while in the Indian and negro skulls in this series the orbits measure two inches in depth. The outer walls of the orbits encroach upon the cavities, giving a still more marked appearance of shallowness. The form and index of the orbit is given considerable weight by anthropologists as a criterion of racial type. It is claimed by Dr. Lydston and verified by him by comparative studies of orbital development that the form of the orbit is of even greater importance as bearing upon the question of degeneracy of type. That marked variation of the form and measurements of the orbit is incidental to differentiation, is seen by observation of the anthropoids. There is a striking difference between the members of the Simian group in this respect and a still greater difference is noticeable between the *simiidae* and *lemuridae*. The shallowness and obliquity of the orbits in Fig. 24 is strikingly similar to the characters observed in the gorilla and chimpanzee, which are quite different from those noted in the orangs. The general outline of the orbits and their proportionate relation to the facial development in Fig. 12 are also decidedly Simian in character.

The inferior maxilla also presents some peculiarities: The coronoid processes are very small and short, the body long and the angles very oblique. The anterior alveolar process is excessively developed. The same is true of the alveolar process of the superior maxilla, it being so situated on the outer surface of the jaw that the teeth were necessarily tipped in to facilitate occlusion with the lower teeth. The central incisors were evidently lost in early life, the alveolus being absorbed and the border of the jaw only one-eighth of an inch in thickness at this point. The palatal vault is very low and the general development of the jaws imperfect.

There is a marked deflection of the vomer and ossæ nasi, evidently of non-traumatic origin and due to excessive development of the osseous and cartilaginous structures of the septum nasi. The nasal spine is enormously developed. The cranial index in this case is extraordinarily high, being slightly above the maximum given by most anthropologists. The type is as marked in the direction of a brachy-cephalic index as is Fig. 13 in the direction of a low or dolicho-cephalous index.

Fig. 27 shows the inferior surface of the skull under consideration. A glance suffices to show its remarkable asymmetry. The foramen magnum is almost entirely to the left of the median line. A line drawn through the center of the foramen traverses the median line of this surface at an angle of about forty-five degrees. The center of the anterior border of the foramen is situated at 76.5 mm. from the left and 58 mm. from the right mastoid. The center of the posterior border of the foramen is 64 mm. and 61 mm. from the left and right mastoids respectively. The margin of the foramen is extremely thin and the occipital ridges very prominent. The measurements are :

Horizontal index,	-	-	-	-	-	98.1
Circumference,	-	-	-	-	-	46.5 c.
Anterior demi-circumference,	-	-	-	-	-	22.6 c.
Posterior demi-circumference,	-	-	-	-	-	23.9 c.
Longitudinal diam.,	-	-	-	-	-	146 mm.
Transverse diam.,	-	-	-	-	-	143 mm.
Vertical diam.,	-	-	-	-	-	148.5 mm.
Root of nose to occipital protuberance,	-	-	-	-	-	313 mm.
Anterior border foramen mag. to sup. occ. angle,	-	-	-	-	-	91 mm.
Bi-mastoid diam.,	-	-	-	-	-	115 mm.
Occipito-mental diam.,	-	-	-	-	-	248.5 mm.
Bi-frontal diam.,	-	-	-	-	-	95 mm.
Bi-zygomatic diam.,	-	-	-	-	-	133.5 mm.
Over vertex from ear to ear,	-	-	-	-	-	350 mm.

On comparing the longitudinal, vertical and transverse diameters of this remarkable skull with those of some of the others of the series, the relatively great height of this dome-like cranium is made very apparent. Thus the diameters are :

	Trans.	Long.	Vert.
Fig. 12, - - -	122 mm.	196.5 mm.	132 mm.
Fig. 15, - - -	146 mm.	174 mm.	145 mm.
Fig. 17, - - -	131 mm.	181 mm.	128 mm.
Fig. 19, - - -	130.5 mm.	190 mm.	128 mm.
Fig. 21, - - -	152 mm.	161 mm.	140 mm.
Fig. 31, - - -	140.5 mm.	180 mm.	136.5 mm.
Fig. 33, - - -	149 mm.	168 mm.	118 mm.



FIG. 27.—Inferior Surface of Half-breed Cranium.

Those of the specimens under consideration being Trans. 143 mm., Long. 146 mm. and Vertical 148.5 mm., a comparison with Fig. 33 is especially interesting.

While making some observations at the Joliet penitentiary we discovered an example of the dome-shaped brachy-cephalic cranium which strongly resembles the extraordinary specimen just described.

This subject is a mulatto about twenty-three years of age, who is doing time for attempted murder. He is a surly, truculent fellow, of a low grade of intelligence and inclined to be unruly. He is at present suffering from a mild type of syphilis. The form of the cranium is well worthy of remark, the more especially as it so nearly approximates the type shown in Figs. 24 and 25.

The facial bones, jaws and teeth in this case were extremely well developed and the palatal vault normal. There was no history of mechanical compression and as the subject was born in Tennessee such a cause is improbable, if not impossible.



FIG. 28.—Dome-shaped Cranium; Mulatto (Brachy-cephalic).

The measurements were not complete. As far as taken they were:

Horizontal index,	-	-	-	-	-	76.7
Root of nose to occ. protuberance over vertex,						39.5 c.
Circumference,	-	-	-	-	-	50.8 c.
Transverse diam.,	-	-	-	-	-	145 mm.
Longitudinal diam.,	-	-	-	-	-	191 mm.
Occipito-frontal diam.,	-	-	-	-	-	59 mm.
Occipito-mental diam.,	-	-	-	-	-	28.5 mm.



The dome-like form of this cranium will be more evident on comparison of the two principal measurements with those of a skull of average development. A comparison was made with that of one of the white orderlies in the prison hospital, a man of fine physique and good cranial development. It was found that while the measurement over the vertex was the same as that of the negro, 39.5 c. the circumferential measurement was 58.5 c.

The next specimen (Fig. 30), is the skull of a noted Western criminal and desperado, who was lynched for train-wrecking in, Wyoming, a number of years ago.



FIG. 29.—Dome-shaped Cranium; Mulatto (Brachy-cephalic).

The conduct of this man during the progress of the lynching stamped him as a bravo of the most hardened type. An attempt was made to induce him to relate the particulars of a murder in which he had participated, the wife of the murdered man being present at the hanging and anxious to learn the details of her husband's death. To the persuasive efforts of the "regulators" and the tears and entreaties of the widow of his victim, he replied: "D—n it, you'll hang me if I tell and you'll hang me if I don't. So here goes:" saying which

he deliberately kicked the barrel upon which he was standing out from under himself and thus saved his self-appointed executioners all further trouble.

This specimen is brachy-cephalic and chiefly characterized by its marked asymmetry.



FIG. 30.—Skull of Western Desperado (Brachy-cephalic).

The occipital region in this cranium is excessively developed, prominent and bulging, being especially prominent on the left of the median line; the occipital protuberance is situated about 8 mm. to the left; the



FIG. 31.—Skull of Western Desperado (Brachy-cephalic).

parietal eminences are very asymmetrical, the right being very prominent and of irregular contour; the palatal vault is of medium height, the teeth regular and the maxilla well developed; the measurements are:

Horizontal index, - - - - -	77.8
Circumference, - - - - -	50.3 c.
Posterior demi-circumference, - - -	28.6 c.
Transverse diam., - - - - -	140.5 mm.
Anterior demi-circumference, - - -	21.9 c.
Longitudinal diam., - - - - -	180 mm.
Bi-frontal diam., - - - - -	105 mm.
Bi-mastoid diam., - - - - -	126 mm.
Bi-zygomatic diam., - - - - -	134 mm.
Root of nose to occipital protuberance, -	312 mm.
Over vertex between auditory meati, -	327.5 mm.
Foramen magnum to sup. occipital angle, -	128 mm.

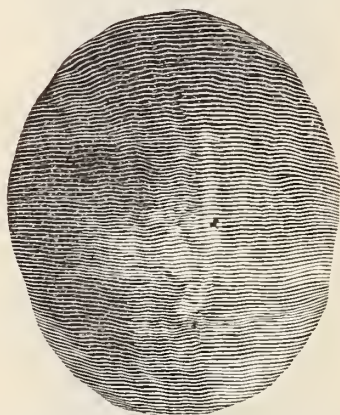


FIG. 32.—Skull of Western Desperado (Brachy-cephalic).

Viewed from above (Fig. 32), this cranium shows a fairly symmetrical outline. The above illustration is used for the purpose of comparison with Fig. 35.

The next specimen is by far the most interesting of the series from the standard of degeneracy and is certainly the most markedly asymmetrical. If it were possible to conceive of a special criminal type of cranium, this would in many respects be an ideal illustration. The subject was a noted Western desperado and train-wrecker, who was lynched at Carbon, Wyoming, back in the seventies, for an attempt to wreck a train at Medicine Bow.

In this attempt he was assisted by the individual represented in Figs. 30, 31, 32.

The extremely disproportionate breadth of this cranium is well shown by the above illustration. The meagre development of the frontal region is very noticeable. On viewing this skull from above, the peculiar twisted appearance which may be observed in connection with the cranial type of the criminal in general will be observed. The orbits are relatively large and the face as a whole of a decidedly "squatty" appearance. The absence of the inferior maxilla is to be regretted, although, considering the vicissitudes which the skull has



FIG. 33.—Desperado and Train-wrecker (Extreme Brachy-cephalic).

experienced, its otherwise perfect state of preservation is rather remarkable. After the lynching of this gentleman the body was buried in a hastily improvised and shallow grave, from which it was very promptly resurrected by those scavengers of the prairie, the coyotes. The skull was finally found by a railroad employe and subsequently used as a paper-weight for some years.

Judging from the conformation of the cranial and facial bones, the lower maxilla, while probably well, or perhaps excessively developed, was without doubt asymmetrical. The relatively defective frontal development of this skull is its most striking feature when viewed in its

anterior outline and is best shown by comparison with Figs. 12, 13 and 17. In the former the extreme breadth is 122 mm. and the extreme length 196.5 mm., while the frontal breadth is 95 mm. In the skull under consideration, however, although the extreme breadth is 149 mm. and the extreme length but 171 mm., the frontal breadth is only 90 mm. The great disproportion in the measurements is at once obvious. In Fig. 17 the greatest breadth is 131 mm. and the greatest length 181.5 mm., yet the transverse frontal diameter is 95 mm.

The disproportion is not compensated for in Fig. 33

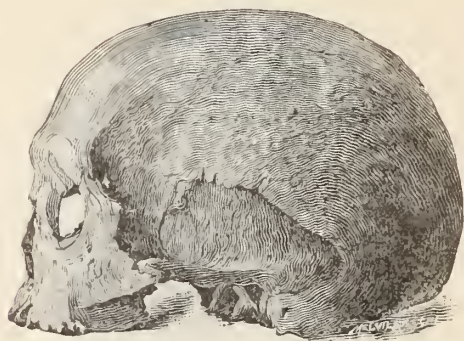


FIG. 34.—Desperado and Train-wrecker (Brachy-cephalic).

by an increased longitudinal development of the frontal bone.

The twisted appearance of this skull is most evident on comparison of the parietal eminences. These are very prominent on both sides, the left being much the larger of the two; the occipital region is greatly deformed and exceptionally prominent, the bulging being most marked upon the left of the median line. The asymmetry of development is shown by a comparative measurement of the distance of each parietal eminence from the occipital protuberance; this measures on the right side 132 mm. and on the left only 119 mm. The squatty, animal-like



type of this cranium is shown by a comparison of its vertical measurement with some of the others of the series; from the highest point at the vertex to the anterior border of the foramen magnum, the measurement is 118 mm.; that of Fig. 13, which is so distinctively anthropoid in its development and outline, the vertical measurement is 132 mm.; of Fig. 16, a symmetrical brachy-cephalic type, is 145 mm.; of Fig. 17, 128 mm.; of Fig. 21, 140 mm.; of Fig. 25, 148.5 mm. and of Fig. 31, 136.5 mm. A little study of these measurements will show the extreme animality of type in this cranium, even



FIG. 35.—Skull of Western Desperado (Brachy-cephalic).

as compared with others of a pronounced degeneracy of type.

A view from above (Fig. 35) shows the circumferential outline of this specimen. By comparing the quadrants of this illustration, the pronounced asymmetry of development is easily seen.

The superior maxilla in this skull is well developed, although the alveolar process shows an inferior development; the palatal arch is exceedingly low; the left superior maxilla is much smaller than the right; the palatal processes show great asymmetry, the right being 61

mm. and the left but 5 mm. in breadth; the measurements of this cranium are:

Horizontal index, - - - - -	87.13	
Circumference, - - - - -	49	c.
Anterior demi-circumference, - - -	20.35	c.
Posterior demi-circumference, - - -	28.65	c.
Longitudinal diam., - - - - -	171	mm.
Transverse diam., - - - - -	149	mm.
Vertical diam., - - - - -	118	mm.
Bi-frontal diam., - - - - -	90	mm.
Bi-mastoid diam., - - - - -	108.5	mm.
Bi-zygomatic diam., - - - - -	132	mm.
Vertical circumference from ear to ear, -	279	mm.
Center of left parietal prominence to occipital protuberance, - - - - -	119	mm.
Center of right parietal prominence to occipital protuberance, - - - - -	132	mm.
Anterior border foramen magnum to superior occipital angle, - - - - -	128	mm.

# SELECTIONS.

## NEUROSURGERY.

TREATMENT OF SPASMODIC TORTICOLLIS BY RESECTION OF THE SPINAL ACCESSORY NERVE.—The following summary with reference to the operation mentioned is from the pen of Dr. L. H. Petit and was published in *L'Union Medicale*, of July 9th and 11th, 1891:

He has collected twenty-six cases, thirteen patients having been cured and seven more so much benefited as to be able to resume their accustomed occupations.

*Indications.*—The indications seem to be set forth in this formula of Southam, an English surgeon, who has the most experience in this resection, since he has made it seven times: "The cases to which this operation is best adapted are those in which the spasm is tonic and limited to the sterno-mastoid, but if the other muscles of the neck are involved, resection of the spinal accessory nerve would still deserve trial, for no other mode of treatment is capable of giving so satisfactory results."

The opinion advanced in the second part of this phrase is absolutely justified by the facts, for in almost all the cases there existed at the same time with a spasm of the sterno-mastoid, a similar affection of the other lateral muscles of the neck, either the trapezius or splenius, etc., and yet the results have been as favorable in the last as in the first.

Before resorting to resection of the spinal accessory all the writers of the reports collected have tried the medicinal treatment usually employed against muscular spasms. Narcotics, local and general, continuous and interrupted currents, massage, actual cautery, etc., all without success.

In two cases, Morgan and Tillaux had first practiced, likewise without success, the subcutaneous section of the sterno-mastoid. Nerve-stretching had also been practiced in two cases before the resection. In the first, Annandale, after having stretched the nerve, left upon the nerve a ligature so as to readily find it if the condition of the patient was not improved. The next day he

reopened the wound, found the nerve by means of the ligature and resected it. In the second case, Noble Smith made the two operations with several weeks' interval.

Then in the presence of these results, when mild or medical means have failed, we may say that one is justified to practice resection of the spinal accessory nerve, in preference to subcutaneous section of the sterno-mastoid and stretching of the nerve.

Jules Guerin, relying upon his long practice, thought that the procedure which he called the "*procédi du doigt*," and by aid of which he made the subcutaneous section of the sterno-mastoid in spasmodic torticollis, cut at the same time the spinal accessory nerve. This procedure consists, as we understand it, in passing the finger under the fleshy body of the sterno-mastoid, made tense by the position of the head, and inserting a special myotome with two separate blades under the muscle, following up the tip of the finger as it is withdrawn. One thus divides the fleshy part of the muscle without cutting the skin and at the same time the spinal accessory and all the nerve fibers coming from other sources.

J. Guerin claimed in favor of this procedure, which gave him three successes out of six cases, the following advantages: the possibility of attacking all the nerve filaments distributed in the fleshy body of the divided muscle, that is to say, adding the advantages of resection to those of the subcutaneous method, in other words, in place of an open wound with a long and painful, if not uncertain dissection, there is an insignificant cutaneous wound and immediate organization of the divided muscles, without suppuration or inflammation.

But without entering upon a discussion as to the relative advantages and inconveniences of the open and the subcutaneous methods, we may say that the advantages claimed by Jules Guerin for the *procédi du doigt* are uncertain and that the inconveniences of the open method have been somewhat magnified by him. The open incision may accompany a long dissection, although this is not generally the case here, but not painful, thanks to anæsthesia; it is not uncertain, for one knows almost exactly where to find the nerve which he wishes to cut. As to the dangers of the operation, grant in the proximity of the jugular, I think that the subcutaneous section of the sterno-mastoid at the point where the

spinal accessory nerve is found, is more dangerous than the open operation.

Stromeyer thought that resection of the spinal accessory nerve should be rejected. It would be very difficult, he said, to excise the accessory nerve even upon the cadaver, much more than upon the living subject affected with violent spasms. This contra-indication is of no effect to-day, for, when the patient is anæsthetized with chloroform, the spasms cease and no longer interfere with the operator.

He invokes, besides, another reason, which is that the sterno-mastoid contains, besides the spinal accessory, other nerve filaments which re-engender the spasmodic state. This reason is of no more effect than the other, for facts have demonstrated that after section of the spinal accessory the sterno-mastoid was flaccid and paralyzed. That which produces the spasms afterwards is not the other filaments which go to this muscle, but those which supply the other muscles of the neck likewise affected with spasm. That is why several surgeons have thought of cutting the nerves of these muscles. M. Terillon has not dared to undertake this operation. More daring, M. Noble Smith has carried to a successful result and has cured his patient by attacking the cervical nerves also. Perhaps the success of the operation performed by Noble Smith will now induce other surgeons to follow his example. We shall see further on that Prof. Keen, of Philadelphia, has also described very minutely a procedure for resection of the deep cervical nerves.

*Operation.*—The operators are divided in two groups; one makes the incision along the anterior border of the sterno-mastoid muscle; the other along its posterior border.

*Operation of Campbell de Morgan.*—Incision two inches long at the posterior border of the sterno-mastoid muscle, the center of the incision corresponding almost to the center of this border. The fascia being incised to the same extent; the trapezius branch of the nerve is found at the point where it emerges from the sterno-mastoid to traverse the posterior angle of the neck. It is found generally a little above the center of the incision. The nerve is then followed to the middle of the fibers of the muscle until one reaches the common trunk above its division into two branches, the one for the trapezius and



the other for the sterno-mastoid. Here a fragment is resected about a quarter of an inch long.

M. Tillaux has adopted this way for the following reasons: "We could search for the nerve," he says, "at the anterior border of the sterno-mastoid, but that would be to operate in a very difficult region, where it is hard to maneuver without danger, by reason of ganglia, vessels and nerves which are found there. To cut the muscle in the middle was also one method, but one which involved useless mutilation."

*Operation of M. Tillaux.*—A horizontal line is drawn from the angle of the jaw, making quite exactly the point where the nerve emerges from the parotia fossa. Another horizontal line drawn from the upper border of the thyroid cartilage, indicates no less exactly the point where the nerve penetrates the muscle. An incision is then made along the posterior border of the sterno-mastoid muscle. This is six centimeters (two inches) long and is included between the two horizontal lines of which I have just spoken. The skin and platysma myoides having been incised the fibers of the posterior border of the sterno-mastoid are discovered. The border of the muscle being exposed, is raised by a retractor and the nerve is found under the form of a cord very easily appreciated. The nerve once discovered, he cut it once at the point where it penetrates into the muscle; he then raised some of the muscular fibers for greater certainty, then he readily followed its upper end and made a section at a point far up. He did this because, as M. Sappey has remarked, it is not rare to see the external branch of the spinal accessory bifurcate prematurely to furnish the branch to the trapezius.

The reasons given by Rivington for adopting the procedure of M. de Morgan were that this procedure gives more light in seeking the nerve than that in front of the sterno-mastoid and seems to expose less to the danger of wounding the jugular vein. The author first tried the two operations upon the cadaver and found that he could easily reach the spinal accessory and resect it in front of the sterno-mastoid but that he was obliged to operate in a sort of hole and if some hindering bloody flow proceeded from the sterno-mastoid branch of the occipital artery, it would probably be necessary to enlarge the incision and cut the internal jugular vein, etc., before the artery could be conveniently ligated. By the method

of M. de Morgan one need not touch important nerve nor vessel and it is very easy to follow the spinal accessory and to isolate it sufficiently for the end proposed.

*Anterior Incision.*—Ballance finds that the resection of a part of the spinal accessory nerve is not difficult. The external branch of the nerve is dissected downward, backward, either inward or outward, from the internal jugular vein and enters under the deep surface of the sterno-mastoid, near its posterior border, exactly two inches below the mastoid apophysis. After having repeated the operation upon the cadaver, Ballance thinks it best to commence the incision not at the mastoid apophysis but at the level of the transverse apophysis of the atlas and to continue downward along the anterior border of the sterno-mastoid to the extent of two inches. This border is then raised up and the muscle is drawn backward. The nerve is thus made tense and the finger feels it where it comes from beneath the posterior belly of the digastric and turns downward and backward toward the lower surface of the sterno-mastoid.

Annandale, Southam and Noble Smith have likewise made their incision along the anterior border of the sterno-mastoid.

*Operation of Keen.*—Prof. Keen, of Philadelphia, has studied recently with care the question of section of the cervical nerves in spasmodic torticollis and has published an important paper in which he gives the rules which enable the surgeon to divide the posterior branches of the first three cervical nerves so as to act upon the principal posterior muscles of the neck which turn the head and correct the spasm:

1st.—The field of operation having been washed and disinfected, a transverse incision is made about a half-inch below the level of the lobule of the ear, starting from the median line of the neck backward or even encroaching upon the median line a little. This incision should have a length of two and one-half to three inches.

2d.—Divide the trapezius transversely.

3d.—In dissecting the trapezius, the great occipital nerve is found where it emerges from the complexus and enters into the trapezius. In the complexus there is an intramuscular aponeurosis. The nerve emerges from the complexus at a point situated between this aponeurosis

and the median line, ordinarily about a half-inch below the incision, but sometimes higher, and then enters the trapezius. This nerve has always the volume of a large catgut and is easily found when it is in its normal place.

4th.—Divide the complexus transversely at the level of the nerve. This incision should be made with repeated little cuts in order not to cut the nerve which serves as a guide, after which the nerve is dissected further from the anterior surface of the complexus, where it springs from the posterior branch of the second cervical pair. Cut then, or rather resect a portion of the posterior branch before the origin of the great occipital, in order to include in the section the filaments to the inferior oblique muscle. So is divided the second cervical nerve.

5th.—The inferior oblique muscle is recognized by following the suboccipital nerve toward the spine. The nerve passes immediately under the edge of the muscle.

6th.—We recognize the suboccipital triangle formed by the two oblique muscles and the rectus capitis posterior major. In this triangle is found the suboccipital near the occiput. This is followed to the spine and is there divided, or better, excised. So the first cervical is divided.

7th.—An inch below the great occipital and under the complexus is the external branch of the posterior division of the third cervical nerve, going to the splenius. When this is found it is divided or excised near the bifurcation of the principal trunk. Thus is divided the third cervical nerve.

Such are the various procedures employed in making resection of nerves in the treatment of spasmodic torticollis. It is the method by the anterior incision which has been most often employed. The example of Southam, who has made use of it upon seven patients, is a powerful argument in its favor.

*Subsequent Care.*—The nerve resected and the wound healed, all is not done. It is necessary to contend against the paralysis of the sterno-mastoid and the trapezius, against contracture of the other rotator muscles of the neck, and in some patients, it is necessary also to take account of a certain degree of permanent retraction of the sterno-mastoid, caused by the long duration of the affection.

The paralysis of the sterno-mastoid has not required special attention; in fact, patients have been required to wear a stiff collar, but that was intended in the thought of the surgeon rather to remedy the spasms persisting after the section of the spinal accessory than paralysis of the sterno-mastoid. However that be, the wearing of a stiff collar is useful and should be recommended.

Against the retraction of the sterno-mastoid, which, in several cases, has made difficult the replacement of the head, massage has been used and the wearing of a stiff collar. We might employ 'for the same end Sayre's apparatus provided with india rubber bands acting against the muscles affected with spasms.

In one case where the attempt was made to combat with faradic currents the spasms remaining after section of the nerve only aggravation of the trouble was produced.

Consecutive treatment should be carried out for months, for the spasms persisting after section of the nerves have lasted for six months and more, diminishing little by little until complete cure.

The final atrophy of the muscles, innervated by the resected nerve, would plead for a prolonged if not indefinite wearing of a supporting apparatus.

*Results.*—In almost all the observations which we have collected, the phenomena consecutive to the section of the spinal accessory nerve have been almost the same. They may be summed up as follows:

As soon as the patient was completely anæsthetized with chloroform the spasms ceased, so the operation has been performed without the difficulties foreseen by Stromeyer in 1837. In order to know if it was indeed the spinal accessory nerve which had been cut, only one means offered; that was the excitation of the peripheral end. Only one surgeon has thought of employing this means, viz., Rivington, who applied an electric current and a violent contraction of the sterno-mastoid showed that he had not mistaken.

When the patient had awaked after the operation the sterno-cleido-mastoid and a part of the trapezius were paralyzed and yet the spasms persisted, though diminished, but they were no more due to the contraction of these muscles. They were other rotator muscles of the head, stimulated by filaments from the cervical plexus, which acted then. Nevertheless, in a certain number of

cases, the spasms diminished little by little and ended by ceasing completely. In others they diminished without entirely ceasing. In others the amelioration was only transient and the affection soon regained all its intensity.

In our twenty-six cases we have thus :

Cure, thirteen times.

Considerable amelioration, seven times.

Less marked amelioration, two times.

Transient amelioration, three times.

Death from phlegmonous erysipelas, once.

This last is the only case in which there is noted an accident consecutive to an operation.

Certainly, these results are very encouraging, since in twenty-six cases, twenty have been completely cured or so benefited that they have been able to resume their occupations. So the surgeons are justified in practicing nerve resection in the treatment of spasmodic torticollis.

Are these results superior to those given by stretching? In order to be able to reply it is necessary to collect an equal number of cases, which it is impossible to do. On the other hand, we may remark that several patients, in whom stretching the nerve had accomplished nothing, have been cured or greatly benefited by resection, which would seem to indicate the superiority of this latter operation.

Have these operations, in permitting direct examination of the nerves which supply the affected muscles, given any light as to the cause of the spasms, as to the probable lesions of these nerves? Few of the authors have considered this point.

Ballance said that he examined with the microscope the excised portion of nerve and found it normal.

In the report of the case of M. Rivington, the brain and cord were examined with care by Dr. Jackson, Dr. Sutton and M. Rivington and were put aside by Dr. Sutton for examination with the microscope. Unfortunately, the specimens appear to have been forgotten or lost, for no note concerning them has been found. On account of the firmness of the cord in the cervical region, either in its integrity or in sections which were made, M. Rivington was of the opinion that it was sclerosed and Dr. Sutton thought this very probable.



These observations are the only ones which we have found as to the lesions of the nerve and cord in spasmodic torticollis, a point of great interest. We direct to this the attention of surgeons who may hereafter perform nerve resection in this affection.

In his patient, M. Tillaux has sought "what might be from a physiological stand-point the results of section of the spinal accessory nerve. This is, we know, a point in physiology specially studied by Cl. Bernard and we know that the distinguished professor made of the spinal accessory a nerve playing a leading *rôle* in phonation, not only by its internal branch but also by its external branch, which occupies us at this time. This branch supplying the sterno-mastoid and trapezius, would serve to prolong the dilatation of the chest in sonorous respiration, in singing. Now the patient tested nothing as to the voice, the operation then cannot serve to elucidate the physiological question but it demonstrates that one can make the operation upon the living subject, that it is easy, inoffensive and may produce good results."

This impression of M. Tillaux as to resection of the spinal accessory was justified at the time when he wrote those lines; it was so no more at the end of a few months, so far as his own patient was concerned, the condition having become again the same as before the operation. However it is correct in a general way if we consider the results obtained in the twenty-six collected operations and upon which we base the following conclusions:

1st.—In cases of spasmodic torticollis in the treatment of which one has in vain tried the modes of treatment which have in other cases afforded relief (antispasmodics, narcotics, revulsives, continued currents, stretching the spinal accessory) he is justified in practicing resection of the spinal accessory nerve.

2d.—This operation is easy, harmless and can produce good results in most cases (twenty out of twenty-six).

3d.—The procedure which appears preferable is that which consists in making the incision along the anterior border of the sterno-cleido-mastoid, starting from the apex of the mastoid apophysis.

4th.—The cure is rarely immediate. There still remains for sometime spasmodic movements produced, not by contractions of the sterno-cleido-mastoid and

trapezius, which are paralyzed, but of other muscles of the neck, rotators of the head. These secondary movements diminish little by little and finally disappear wholly or in part.

5th.—When these movements persist one may have recourse to the resection, either of a filament of the facial or of the posterior branches of the cervical nerves, after the method indicated by Noble Smith and Keen.

6th.—After the operation it is necessary, in order to complete the cure, to make use of massage of the muscles against contractures and to wear an apparatus for support of the head. This apparatus should be worn for several months, even a year and still longer, if necessary, according to the results obtained.

E. M. N.

TREPHINING IN A CASE OF GENERAL PARALYSIS.—M. Rey reported a case in which he thought the disease was benefited by the intervention of the surgeon. The dura mater presented no unusual appearance. Beneath the meninges the large vessels presented a gelatinous aspect and showed milk-like plates. The brain formed a hernia which filled up the opening in the skull. A rapid examination was made. The incisions in the dura mater were there reunited by sutures, as were also the rents in the pericranium.

The operation, which lasted an hour, was performed under strict antiseptic precautions. On awakening, the patient was quiet and contented. Eight days later, the cicatrization of wound was completed and the patient returned to ward. A month and a half later he returned to his family, the states of depression and exaltation having disappeared.

M. Rey remarks that cases of this kind may be benefited by the surgeon, even though there is no tumor or irritation of the brain, just as cases of symptomatic or essential epilepsy may be benefited. The incurability of general paresis and the recognized futility of internal treatment justify this operation.—*Le Progrès Médical*, August 15, 1891.

SKIN DISEASE COINCIDENT WITH INSANITY.—M. Henri Contange reported an interesting case of this kind. A woman, aged 42 years, oval palate and asymmetrical face, but without hereditary taint. Suffering from men-

tal infirmity similar to imbecility, with extreme obtusion of the moral faculties, but without delusions. During four years she was convicted fifteen times for various offenses. There was erythema of the face, also many spots where the skin pigment was entirely absent; on the backs of the hands there was erythema of the skin with desquamation and induration. M. Contange believes in this case the influence of nervous system may have been a factor in the causation of the skin trouble.

T. D.

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### CLINICAL NEUROLOGY.

**STATUS EPILEPTICUS.**—G. R. Trowbridge and C. B. Mayberry, of Danville, Pa., have made some careful original studies upon this subject in connection with twenty cases of epilepsy, in the State Hospital for the Insane at Danville. We present an abstract.

Status Epilepticus is the climax of epilepsy, not another form of the disease. It consists of "a rapid succession of convulsions, usually of 'grand mal' type, with intermissions varying from a few seconds to a few minutes and often following one another so closely that they resemble one continuous convulsion, the patient being in a stuporous or even comatose condition in the intervals."

The pulse and breathing are greatly accelerated, the former being weak and irregular; there is deep congestion of the face and neck and intense throbbing of the carotids.

The temperature rises rapidly until it has reached 104°-107° F., and there is often a difference in the temperature of the two sides, the greatest heat being on the side which is most convulsed.

As the convulsions increase in frequency and violence, there is a corresponding rise in the temperature and a deepening stupor or coma in the intervals. The conjunctivæ are insensitive; the pupils are widely and, as a rule, evenly dilated, though occasionally there is a difference in size and are not affected by light; patient is bathed in a cold sweat, though the skin feels intensely hot; sordes appear on the gums and teeth and the bladder and bowels are involuntarily evacuated. This condition may last from one to several hours; but, as a rule, the

convulsive stage is of comparatively short duration, though occasionally it is prolonged.

The stuporous stage is characterized by an intense stupor, total abolition of sensation and motion, exceedingly depressed heart's action and a consequent dyspnoëic condition. The temperature remains above normal, though not as high as in the convulsive stage.

Twelve of the twenty cases which were studied, are given in detail. Four cases were examined *post-mortem*. These points were common to all four:

"1st, A lack of symmetry in the two hemispheres, which is so often found in epileptics; 2d, An inequality in the weight of the two hemispheres, also quite common in epileptics; 3d, More or less extensive decortication; 4th, Intense engorgement of the brain and its membranes, the sinuses were filled with blood, the vessels of both the dura and pia were distended, the brain on section showed the puncta vasculosa to a marked degree; 5th, In all four cases, and especially marked in two, serous effusion into the ventricles and arachnoid space."

The prognosis is unfavorable, the mortality being 50 per cent.

The indications for treatment are, first, to stop convulsions quickly, and, second, to sustain life.

Ether is of use only as a temporary measure. Bromide, chloral and nitrate of amyl are of little avail. Hyoscine promises good results (dose 1-80 to 1-100 gr.) It must be given hypodermically. Hydrobromate of conine in doses of 1-100 to 1-40 gr., was the most successful remedy employed. Whiskey, digitalin and quinine were given for the exhaustion.

The authors draw the following conclusions:

1st. On account of its association with epilepsy, status epilepticus should not be considered a distinct disease, but merely a climax of the neurosis.

2d. It consists of two stages: (1) a convulsive and (2) a comatose, though the latter is sometimes replaced by a period of maniacal excitement.

3d. That there is no demonstrable lesion causative of the status.

4th. That the prognosis is unfavorable.

5th. That the treatment is in a measure symptomatic, but considerable reliance can be placed upon the hypodermic use of the hydrobromates of hyoscine or conine combined with the sulphate of morphine.

T. D.

## CLINICAL PSYCHIATRY.

SYSTEMATIZED DELUSIONS OF AMBITION WITH HALLUCINATIONS AND IDEAS OF PERSECUTION IN A CASE OF MENTAL DEGENERATION.—M. Magnan, in a recent clinic, showed the following case:

K., native of Holland, received a good education; had typhoid fever in childhood. At the age of 18, entered a military school; there submitted twice to be examined to pass for an officer. At the age of 27, married a woman who brought him 40,000 florins. Nothing especially occurred until 1883. The king's son had been dead for some years. The second son also died and there was no one to inherit the throne of Holland. At this time he had some doubts as to his birth and origin, and gradually convinced himself that he was the son of the king. He made a retrospective examination of his whole life, bringing up all incidents which would serve to strengthen his delusion. At this time he began to fear persecution.

In 1883, while singing in church, he was suddenly apprised of the illness of his son and upon arrival home found him dead. He was persuaded that his son had been poisoned. He made an examination and filed a complaint, notwithstanding that the doctor who attended his son, stated that he died a natural death. He thought the governess ought to be imprisoned ten years. His conduct now became exaggerated. He bought a fine house in the country, began to bet extensively in lotteries and soon failed. His wife and children left him alone with the two gardeners. One night he heard the dogs bark and said he would go and see what was the cause. It was the son of the burgomaster, who he said had come to assassinate him. At another time he took purgative pills, had violent colic and said he had been poisoned. Often he would overhear conversation in the streets of the Hague: "Here is the son of the king." He addressed the king a note asking for an interview and went to Paris during the arrangement of his affairs. Each month he offered one hundred francs to the consul of Holland to prove how much he hated to be banished. These, with other delusions and hallucinations, characterized this case.

PERSISTENT HALLUCINATIONS OF SIGHT; AN INTRACRANIAL LESION ACCOMPANIED BY ATROPHY OF THE OPTIC



NERVES.—M. C. Dr. Chaumier writes an interesting paper from the above title.

A patient, age 62, not alcoholic or syphilitic, presented an atrophy of the two optic nerves, accompanied by hallucinations of sight. This symptom presented interesting features from the point of view of the physiological psychologist. The lesion of the ocular apparatus produced double hemianopsia, which was different for the two eyes. The patient had vivid hallucinations of sight following the progressive atrophy of the retina. This fact shows that degenerative lesions or irritative lesions of sensory apparatus may be accompanied by hallucinations.

Dr. Chaumier has observed many cases in private practice, some of which he has reported before. He believes that sensory insanity depended upon disturbance of cerebral nutrition which was determined by auto-intoxication.

The last fact in the case is most interesting from the point of view of the physiological psychologist, as showing the dependence of the trouble upon the sensory defects. Before the patient became affected he did not complain of hallucinations of sight. The auditory troubles and the illusions of general sensibility were manifested secondarily, showing the mutual interdependence of the senses upon each other, defective functioning of one being followed by trouble in all the others.—*Le Progrès Médical*, October 15, 1890.

CONTRIBUTION TO THE STUDY OF THE EYE OF THE INSANE.—M. Royer has reached the following general conclusions:

1st. As to the nature of the lesions found, the insane present no disease of the eye which is special to or found only in insanity.

2d. The right eye in right-handed persons and the left eye in left-handed persons are most frequently involved.

3d. As a general rule, those who suffer from ocular troubles are also troubled with delusions or hallucinations.

4th. About one-third of the insane have ocular affections.

5th. An ophthalmoscopic examination of the eyes may show the necessity for the administration of a cardiac tonic.

The author also makes the following special observations :

1st. In general paralysis it is well to compare the symptom of inequality of the pupil with fixity of the pupil. Both are characteristic.

2d. Physiological evacuation of the pupil is a very general disposition among the degenerated.

3d. Hypermetropic idiots are of intra-uterine origin ; emmetropic and myopic idiots generally develop during early infancy.—*Le Prog. Méd.*, October 15, 1890.

TYPHOID FEVER AND INSANITY.—M. Joffroy reported four cases of interest. The first was that of an old woman who had typhoid fever at the age of 23, with nervous troubles and delusions during convalescence. In the second case the patient had been subject to attacks of hysteria formerly; occasional delusions during attacks of typhoid, some of which persisted. Third case was one of typhoid fever, followed by dementia. Fourth case was one of paraplegia preceded by typhoid fever, which appeared to exist in a latent state.

M. Weill thought that typhoid fever poison was no more powerful in producing insanity than that of any of the other infectious diseases. To this view M. Joffroy dissented.—Report of Congress in *Le. Prog. Méd.*

DEFORMITIES AND MORBID CONDITIONS OF THE NOSES OF IDIOTS.—M. Revillet has noticed that the deviation of the nose to the right may be observed in more than half of all idiots. The nasal fossæ are in a constant state of chronic catarrh. Hypertrophy of mucous membranes is frequently noticed. These affections are rare in sane persons. The deviation of the septum is one of the causes in producing hypertrophy.—*Le Progrès Médical*, August 15, 1891. T. D.

## NEUROPHYSIOLOGY.

THE ANAL REFLEX.—Rossolimo says this reflex consists in a contraction of the anal sphincters in response to a stimulation of the skin and mucous membrane of the anus. It is invariably present in man in health. The branches of the inferior hemorrhoidal, pudendal and perineal nerves, on which this reflex depends, are connected

with the third and fourth roots of the sacral plexus, which spring from nerve cells in the conus medullaris. This reflex can be obtained in the dog as well as in man, and Rossolimo cut the spinal cord across at different levels from above downwards; whenever the lumbar enlargement was cut across at the level of entry of the third sacral nerve, the anal reflex suddenly disappeared, from which it follows that the cells of the spinal cord which are connected with this reflex are situated in the third quarter of the lumbar enlargement, reckoning from above downwards. In another series of experiments the lumbar enlargement was exposed and the sacral roots were cut one at a time. By this means it was proved that the anal reflex depended upon the integrity of the third and fourth sacral roots. This reflex, therefore, has its seat in the cord lower than any other reflexes. To obtain the anal reflex the patient may be either standing, the operator separating the glutei, or lying on his side, with the legs drawn up. The skin and mucous membrane of the anus may be stimulated by stroking with a pin, a feather, a piece of paper or some suitable object. The reflex is shown by a contraction of the sphincter and ani externus and if it is very strong there is a drawing in of the whole anus and even sometimes a contraction of the glutei. In women the testing of this reflex may be conveniently combined with a gynecological examination. The author has examined this reflex in a great many conditions and he comes to the following conclusions: It is increased in some cases of neurasthenia, in cases of myelitis high up in the cord, and in conditions in which there is a general exaltation of sensations. It is lost in multiple neuritis affecting the sacral plexus, in some cases of tabes and in myelitis of the lower part of the cord and in these cases there is generally also anæsthesia of the rectum, anus and urethra. It remains normal in functional derangements of the bladder, the rectum and the sexual apparatus.—*Boston Med. and Surg. Jour.*

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## FORENSIC PSYCHIATRY.

LEGAL RESPONSIBILITY IN RESTRAINING INSANE SUFFERING FROM DELUSIONS OF PERSECUTIONS.—M. Charpentier, in a very interesting paper on this subject, reaches the following conclusions:

1st. This class of insane often recognize, themselves, the nature of their delusions: ideas of hatred, vengeance, persecution. There is a fixity to the delusions, a long duration of them or a frequent return of them. There is a great tendency for the delusions to incite the patient to commit violence.

2d. Physicians must decide as to the legal responsibility of the insane and should decide them irresponsible when the violence is committed as the result of a delusion.

3d. They should be placed in an asylum where a therapeutic discipline can be exercised over them.

4th. The period of seclusion of these cases should be decided by their conduct and the character of their delusions.

5th. The prescription to go home on trial should be considered a means of treatment to be used by the physician.

6th. Those who are dangerous or intractable should be secluded in special quarters.

7th. All those cured, after a certain time, should be removed from the asylum in which they were treated.—*Gazette des Hospitaux*, Aug. 18, 1891.

T. D.

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## NEUROTHERAPY.

PAPINE.—Dr. N. M. Gray, of Allegheny, Pa., has tried papine in two children from one to three years old and with the best effects, where an anodyne was required. No unpleasant consequences followed the use of the drug.

## EDITORIALS.

[All Unsigned Editorials are written by the Editor.]

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**Hypnotism.**—The burning focus of agitation and discussion to which hypnotism continues to be subjected in scientific publications is actively reflected in the daily newspapers. While our readers are familiar with the space which this topic occupies in the English-printed columns of the public press, the majority of them may be unaware of the interest which it also excites in the German and French journals of the United States. We have before us recent numbers of the *Deutscher Correspondent*, of Baltimore, and of the *Courrier des Etats-Unis*, of New York, both representative organs of their respective nationalities in America.

In the *Correspondent*, recent interesting experiments by Richard Krafft-Ebing are related in so graphic and impressive a form that we here present them to our readers. We translate from its Sunday supplement of August 9th, 1891.

The distinguished German psychiatrist, Baron Krafft-Ebing, at his clinic in Vienna, lately introduced two female patients who labored under severe grades of frequently-recurring nervous convulsions, to which were superadded cerebral hallucinations. In the hands of previous experimenters both these persons had proved refractory to the tactile, luminous or acoustic means usually practiced to invoke hypnotic sleep, such as mechanical excitation of the muscles, the display of bright objects, or the employment of monotonous sounds.

Finally, the first of the patients, a delicate woman twenty-five years old, yielded to the maneuvers of the hypnotizer; as he slowly and firmly repeated the command, "Sleep!"

The second patient, a handsome young blonde, more readily followed her predecessor into the realm of hypnosis. In her case, the state was induced as follows:

Dr. Krafft-Ebing stretched her upon a bed and began to beat, with the instrument close to her ear, loud but slow and monotonous strokes upon a species of gong (French *tam-tam*). This procedure lasted about two minutes, whereupon the young woman fell into a profound hypnotic sleep, her head resting laterally upon her right arm. The psychiatrist then grasped her other hand, at the same time gently stroking her forehead, and addressed her as follows: "Now, my daughter, you perceive that you feel perfectly well; you are wholly cured of your painful convulsions; you are once more a joyous and happy girl. Your



old malady will never return, for your will-power has become stronger than the disease. Only *will* that you are free and you are really and lastingly so."

The professor continued: "Now is the time for you to awake. I will count *one, two, three*; and when the last of these words is uttered, you will arise fresh and in perfect strength." Hardly had the hypnotizer pronounced the word *three*, when the young woman rose to a sitting posture, seized her head with both hands and gazed bewildered around, like one suddenly aroused from deep sleep. As the professor repeated, "I have said *three*, my daughter," the patient sprang vigorously from her bed, cheerful and in her right mind.

The restoration of the other patient to consciousness and apparently perfect health, was accomplished even more promptly and strikingly, while the numerous witnesses, who had followed Dr. Krafft-Ebing and the details of the hypnotic procedure, with glowing interest, broke into loud applause.

The experienced and vigilant editor of the *Correspondent*, F. Raine, our former distinguished Consul-General at Berlin, epitomizes a whole essay of editorial comments in a single trenchant and pregnant sentence when he remarks, "The foregoing and all kindred experiences in hypnotism, despite their scientific interest, have as yet proved absolutely nothing of its *permanent* value as a therapeutic agent."

The former editor-in-chief and present co-proprietor of the *Courrier des Etats-Unis*, Leon Meunier, has in recent years resided permanently in Paris. He is announced as being responsible for the news service of the *Courrier* in the French capital, if indeed, he does not personally indite all the interesting correspondence which his newspaper receives therefrom.

In a communication from M. Meunier, dated Paris, June 29th, 1891, he relates that Doctor Voisin, one of the physicians of the Salpêtrière, was recently commissioned by the court to investigate and testify to the mental condition of a woman charged with repeated thefts from Paris shops. As this particular experience of Dr. Voisin is made by the correspondent the text of an extended notice of the researches of this scientist, we prefer to make its translation literal, while paraphrasing and condensing the rest of M. Meunier's letter, respecting the experiments of this latest French explorer in hypnosis:

Dr. Voisin succeeded in demonstrating to the satisfaction of the tribunal that this woman had committed the thefts solely under the

influence of suggestions daily imparted to her by three malefactors. Having been made by the latter their unconscious accomplice, she perpetrated with complete docility, whatever acts were suggested to her by them and under whatever conditions they prescribed.

It was in evidence that when the place where the goods stolen by the woman were concealed, was evacuated by order of the magistrate, a large furniture wagon was required to contain and transport them.

The medico-legal examination, by authority of the court, established so clearly the mental irresponsibility of the accused that a *non pros* was entered in her favor, while the three real authors of the series of crimes were committed to the rigor of the law.

M. Meunier then proceeds to recount a number of interesting experiments which Dr. Voisin, while seriously engaged in the study of hypnosis, recently made at the Salpêtrière. The striking results obtained by him ought, in the opinion of the correspondent, to contribute greatly to the solution of the grave question of hypnotic irresponsibility for crime, which has of late been so frequently and earnestly agitated before criminal tribunals.

As is well known, scientific physicians have become embroiled in bitter conflict while seeking to establish whether or not persons who are susceptible of hypnotism can, under the sole influence or constraint of suggestions received while in this state, be led to commit important crimes. During the course of the Eyraud trial the affirmative was maintained by Prof. Liégeois, a fervent disciple of the Nancy school, who exhibited on that occasion extraordinary intemperance of language in attempting to prove that Gabrielle Bompard was but an unconscious hypnotized instrument in the hands of her associate in the great crime. Liégeois' opinions were strenuously combated by the Paris school, fortified by the authority of Charcot and his well-known experiments. The possibility was denied, by the latter, of reducing any subject, through hypnotic agencies alone, to a condition of absolute automatism. According to the Paris authorities, the personality of an individual could never be so thoroughly destroyed under hypnotism as to lead him to commit acts against which his conscience and nature should revolt. He would still possess a power of resistance, attenuated though it were, which would permit him to recoil successfully before suggestions grossly repugnant to his moral sense.

Up to the present time, French medical jurisprudence

remains strongly intrenched behind the great authority of the Paris school and of Dr. Charcot. Will they all be dislodged by important recalcitrants, like Dr. Voisin?

One of Dr. Voisin's first experiments, which was made in the presence of three Paris magistrates, consisted in suggesting to a hypnotized subject that he should, immediately on awaking, give a murderous blow with a knife to a patient lying asleep in bed. With astonishment, not unmingled with horror, the magistrates, concealed behind a curtain, saw the man, who did not suspect their presence, administer the assassin stroke to the unconscious victim. It hardly need be added that the victim was a manikin giving the illusion of a sleeping patient.

The subject had furthermore received the suggestion to forget the order he had received as well as the act which he had committed, so that, despite the insistence of the magistrates, neither the latter nor anyone else could extract from him either the confession of the crime or the name of the accomplice who had suggested it.

Three days afterward the subject returned to the Salpêtrière. His physiognomy bore traces of great moral suffering and he complained of insomnia. For three nights, as he said, a woman had appeared to him and reproached him with striking her with a knife. A few hypnotic suggestions relieved him of this 'hallucination.

To remove all fear that this docile murderer might possibly have entertained some vague suspicion that the homicide was not to be real and that the victim was but a dummy, Dr. Voisin determined to prepare for his subject a fresh crime and this time under conditions approaching still nearer the semblance of reality.

He notified the inhabitants of a house in Passy, that on a designated day and hour his subject would set fire to a mass of shavings placed against the side of their wooden residence. Punctually at the indicated hour, the subject approached the house and executed his commission with fidelity. Nor did he afterward appear to have any remembrance of what he had done.

The same test was later applied to him by Dr. Voisin at the Salpêtrière in presence of the pupils of his clinic. The subject, while in a hypnotic condition, in February of the present year, had been ordered to reappear at that hospital on the 31st of May, at ten o'clock, A. M., the day of the opening of the course. He came, as

requested, from Belleville, where he then lived. Being interrogated as to why he had presented himself, he was utterly at loss to explain. He was thereupon hypnotized and given the order to set fire to the contents of a little cabin situated in a remote part of the grounds of the Salpêtrière. On being awakened, he immediately sought the cabin and striking a match, ignited the inflammables within. Being summoned by Dr. Voisin and taxed with the act, he declared that he knew nothing of it and had received no order from anyone to do it.

In conclusion, we will again let M. Meunier speak in a careful translation of his text, preferring that he shall enjoy the full paternity of his own views:

In the presence of this series of scientific experiments, conducted by Dr. Voisin before intelligent magistrates and medical men, and especially in view of the endorsement of his opinions by a regularly organized tribunal, is it any longer possible to deny the possibility of criminal suggestion and its dire results? May not susceptible subjects be reduced, by hypnotic measures, to a state of total automatism? May not their moral and volitional personality be so completely abolished, or held in abeyance, as to make them the blind and helpless tools of designing malefactors?

If the answer must be in the affirmative, does it mean that the efficient investigation of crime is at an end, that the application of meet penalties for transgressions of law is impossible and that the so-called administration of justice is a hollow mockery? Certainly not.

It simply means that in certain cases, which are fortunately rare, the truth must be reached by more circuitous and difficult routes than heretofore; and paramountly, that when the defense invokes for its *ægis la suggestion criminelle*, the latter shall not, without a second thought, be rejected as absurd and impossible.

W. W.

**Morphomania.**—The world has grown so prolific of morphomaniacs that their clinical histories need now to be invested with special pathologic or therapeutic value to insure their publication in psychiatric literature. In the newspaper press, on the other hand, the criterion which appears principally to govern their mention is the prominence which the unfortunate victims occupy in the public eye.

At the recent death of Oscar von Redwitz, the distinguished German poet, who succumbed at nearly three-score years and ten to the chronic abuse of morphia, two autograph letters to his friend, E. Wechsler, written in 1886 and published at his death, gave the public press

an inviting opportunity to couple the greatness of the poet with his overshadowing infirmity. The German newspapers paraded poor von Redwitz through their columns with more than ordinary obituary pomp. The triumphs of his brilliant literary career were displayed in a way to gratify the most ambitious of the deceased poet's friends and admirers.

His first epic, "Amaranth," in its forty editions, and his new epic, "Odilo," written shortly before his death, his numerous dramas and novels, his professorship in the University of Vienna, his baronial estate near Kaiserslautern, in the Palatinate, and his villa in close proximity to the ancestral castle of Carlyle's "big-mouth Mag," at Meran, in the Tyrol—everything was taxed to intensify the dramatic effect of the publication of his letters to Wechsler.

These letters are of more than ordinary interest to the psychiatrist, by reason of the brilliant but temporary self-cure which the poet achieved under the remarkable circumstance of his age. We here translate portions of them from the *National-Zeitung*, of Berlin, but naturally with loss of all the ear-marks of his diction, which strikingly characterize the originals:

Your welcome letter reached me in my troublous time, which, God be thanked, is now successfully surmounted and lies only in the painful past. May like struggles and tortures never again beset me! Have patience while I briefly relate my history and deliverance:

For full thirteen years, by day and night, I was compelled by a painful neuralgic affection to employ subcutaneous injections of morphia. I bear on my person 63,000 (?) scars of the needle. Already ten years ago, when I had reached the enormous daily use of twenty-four grains, I lay five months confined to my bed, under the throes of opium poisoning and its associate effects. The mental and physical agony which I underwent during that time beggars all description. I added to my religious creed at that epoch, the belief in a hell on earth. With colossal energy I succeeded during those five months, despite constantly recurring and well-nigh unendurable and fatal muscular cramps, in reducing my daily allowance of morphia from twenty-four to eight grains—a triumph of will which excited the astonishment of my friend Professor Billroth.

I had no sooner regained my writing-table than I commenced my newly-conceived "Odilo." While engaged in this work, I reduced my morphia dose to six and a half grains per day and this amount I did not subsequently exceed. But even this moderate ration worked, in process of time, the worst results. My life lay in demoniacal fetters. And yet, as you well know, I was all the while productive in literary work.



Finally, on the 6th of December, 1885, after experiencing a severe attack of acute bronchitis, from which I became convalescent in two weeks, I seized the heroic resolution of waging a decisive life-and-death battle with the demon opium, while lying in bed and renouncing all literary labor.

What this rapid and complete abandonment of the chronic opium habit signifies—what extreme and almost superhuman exercise of energy and perseverance this successful achievement exacts, is nowadays known to almost every layman. The patient generally seeks a special institution for his painful and desperate cure. Almost never does he undertake, at his home, the complete withdrawal from its use, unless under the most efficient professional control. In my case—and I say it with pardonable manly pride—this great masterpiece of personal triumph was effected wholly by myself and without extraneous aid. At the end of three weeks and a half, but through days and nights of the most anguishing experience, I was a complete victor over the Satanic drug.

Every physician was astounded by my exceptional success. What is more, my old neuralgic pains, which had been but temporarily relieved by the subcutaneous remedy and had seemed to increase their display of power during all the morphia treatment, have subsided to a point where they are easily endurable and do not seriously disturb my mental and bodily equilibrium. I now look confidently and happily forward to a not distant time when my much-abused nerves, distraught by opium poisoning for thirteen years, shall resume their complete integrity. Am I not, with right, celebrating a proud triumph of the human will?

But the unfortunate man mistakenly and prematurely exulted. His evil spirit, exorcised for a short period, clamored imperiously for return. In von Redwitz's next letter to Wechsler, he writes:

Pardon my long silence. I must now make to you the humiliating admission that when I wrote you last it was with dilapidated nerves, under severe pain and with great effort. I suffered and vegetated in that way until autumn. Then, upon the advice of my physicians, I resolved upon a return to morphia—the cruel agent from which, after a brave but it now appears futile conflict, I had believed myself to be forever liberated. You can imagine with what terrible emotions I again abandoned myself to the poison.

Despite the heroic and honorable struggles of von Redwitz, his fetters were again firmly welded and so remained until his death.

Relatives and friends of the deceased poet have deplored and bitterly condemned the posthumous surrender, to publicity, of his private correspondence, whereby a fertile text was unnecessarily supplied for the

pandering exaggerations of the daily press. If the newspaper writer fain would "point a moral and adorn a tale" by freely discussing this somewhat remarkable confession of the alternately hopeful and despairing von Redwitz, may not the medical writer, with far higher motives, be pardoned for welcoming its publication and its realistic fidelity to fact?

W. W.

**The American Medical Temperance Association** was organized at Washington, May 7th, 1891, in pursuance to a call by Dr. N. S. Davis, of Chicago, Ills.

Having for its object to advance the practice of total abstinence in and through the medical profession and to promote investigation as to the action of alcohol in health and disease and it aims at being a bond of union among medical abstainers scattered all over our country. It admits as members regular medical practitioners who are practical abstainers from all alcoholic liquors as beverages. *Members are not required to sign any pledge, but if such for any reason cease to be total abstainers it is expected that they will withdraw from the association.* The liberty of members to prescribe alcohol is entirely uncontrolled.

Our estimable friend, Dr. T. D. Crothers, makes the following statement in the *Journal of Inebriety* concerning the purposes of this new society:

The purpose of this society is to study and investigate the action of alcohol as both a beverage and medicine. The only qualification required is to be a regular medical practitioner and *total abstainer from alcohol as a beverage. It will be apparent that the last qualification is more or less a scientific necessity for good work in this field.* It is assumed rightly that all physicians interested in this problem of alcohol should approach it from the scientific side alone, unbiased by any personal considerations of custom or habit, political or religious belief, with no object other than to ascertain the facts concerning alcohol, irrespective of all possible conclusions. This is the spirit and purpose of the association.

And yet the society requires evidence of a bias in favor of total abstinence by practically requiring a pledge of total abstinence as a preliminary to engaging in the work. It is not at all apparent to us that this qualification is a "scientific necessity for good work in this field." On the contrary, it appears to us to be at variance with the liberal spirit of true science and calculated to retard the good work of attaining to a correct understanding of alcohol in its effects upon the human organism.

In the language of Dr. Crothers, we concede as true that

The alcoholic problem has reached such proportions and has become a subject of such intense interest in all political, social and religious circles, as to demand scientific study.

Medical men in every community are called upon to determine the facts concerning alcohol and the necessity for medical study and agreement concerning the general truths is apparent to everyone.

With these facts before them and the world

The Medical Temperance Association invites the co-operation and aid of every physician, not for the propagation of any theory, but for the gathering and grouping of facts concerning the action of alcohol,

Provided the investigator will qualify as a total abstainer. He is *not required to sign any pledge, but if for any reason he ceases to be a total abstainer, he is expected to withdraw from the association*; and yet this association is considered by the *Journal of Inebriety* to be "entirely independent of any other object except the purely scientific question of alcohol."

This is the illiberal spirit of fanaticism and will undoubtedly impair the usefulness of this body, divest it of all true scientific character and deprive it of general professional sympathy. What should such pledges have to do with our search after truth? Why should one's moral convictions be required to reach the advanced stand of Dr. Davis, of absolute and unqualified total abstinence ever and always, before he can be considered qualified to see the facts as they are or to concede that alcohol is something to be vigilantly studied and hedged about and curtailed?

This society started with sixty-one physicians. Without this pledge of abstinence as preliminary to "co-operation it might have started with twice as many and the other sixty-one members would probably have proved no less useful to the cause of medical temperance than those who joined in the organization.

The time is ripe for a medical inquiry into the therapeutic and social dangers of unguarded alcohol, but pledges of abstinence as conditions preliminary to such inquiry are too unscientific and fanatical to be tolerated by the liberal votaries of science, who do not condition their brothers' work upon their advanced moral convictions.

If it is rightly assumed as Dr. Crothers states, that all physicians interested in this problem of alcohol should approach it from the scientific side alone, unbiased by any personal considerations of custom or habit, political

or religious belief, with no object other than to ascertain the facts concerning alcohol, irrespective of all possible conclusions—if this is the spirit and purpose of this association, then why exact this pledge of abstinence? All physicians are not of the same way of thinking and feeling as Dr. Davis.

How then can this association appeal to every physician, *not as a propagandist*, but as a scientist, for facts and clinical experience? It appeals to them as the only competent authority to determine the alcoholic problem. How can it appeal to the physician to guide and direct public sentiment and to make this association the great central power for the study and propagation of the facts and laws relating to alcohol and its use and abuse, while it pledges its investigators to Dr. Davis' foregone conclusions and long-established conviction that alcohol is ever and always an evil? What kind of free scientific investigation can come of such bonds? What kind of conflict of opinion and profitable interchange of views and results might be expected of such bondmen? This is the freedom of inquiry which the Church permitted to Galileo and Kepler and Vesalius—a liberty within limits, but not the boundless freedom for fair investigation which belongs to true scientific inquiry.

It will be interesting to see what kind of papers this self-limited body of scientific inquirers will produce. It "appeals to all physicians, not as propagandists, but as scientists," and yet it is a medical temperance association of propagandists of total abstinence, practically pledging themselves to teetotalism.

With this pledge it may prosper as a temperance club and we hope it may. There is need of more temperance societies than we have, but with this pledge of total abstinence exacted of every investigator in advance of receiving his views, it cannot get recognition from the scientific world as a scientific body seeking only truth, for its aim is for the truth only in the direction of temperance. The question as to the value and place of alcohol is already settled by its pledge and name. It is the American Medical Temperance Association. As such we wish it success. Its scientific work, of course, will be in one direction only. To its members there is but one side to the alcohol question. If you wish to descant upon that side only and "touch not, taste not, handle not," you are welcome within the pale.

**Common Scolds.**—A recent arrest in Baltimore of a shrew, her sharp preliminary examination, not untinctured with malice and her commitment for further judicial proceedings, rendering her liable to a long term of imprisonment, reminds us that in many States of the Union a law like the one in Maryland still exists as a barbarous relic of the middle ages of Europe.

These statutes against brawling women are based upon the old English common law and the Pilgrim Fathers of New England made haste to reproduce, on virgin soil, a like persecution of these unfortunates and even to repress their boisterous clamor by some of the inhuman contrivances employed in medieval times.

In Saxony the neck of the hapless termagant was put in an iron stock, and in Nuremberg she was haltered and led by the beadle through the streets of that city from one gate to the other. England, barely fifty years ago, rejoiced in the ducking chair, an instrument of torture wherewith a most unchristian immersion was practiced on the limber-tongued female scolds of the British isle, to the intense public enjoyment of young and old.

All these rude implements of torment have disappeared under the humanizing influence of modern times, but the imprisoning paragraphs against "common scolds," which still disgrace our statute books, are an infamy.

A contentious humor and a wrangling tongue are not a crime but rather a disease. Only in the vastly preponderating minority of cases do they originate from a bad heart. On the contrary, they have their seat either in an innate lesion of the nervous system or in a derangement of the physical health. A rude and clamorous woman is but seldom, or only incompletely, conscious of the misery she inflicts. It is a burlesque of justice to bring her for chastisement and discipline before the courts. As well punish a patient for indulging in the alleged pleasure of being sick. The physician and not the magistrate is the proper agent to deal with these cases. The sections against "common scolds" should be promptly erased from the statute books.

W. W.

**Mimicking Hypnotism.**—To show the present trend of popular, if not scientific sentiment in Paris, respecting hypnotism, a newspaper of that city relates an amusing scene in the Tenth Correctional Tribunal of the Seine. A prisoner named David, charged with obtaining money



under false pretenses, appeared to be fast asleep when in the dock and could not reply to any of the questions put to him. His counsel explained that he was a hypnotic subject and undertook to bring his client to by blowing in his face, talking in his ear and making as many "passes" as the acting-manager of a city theater in July. But the prisoner, like the victim of the boiler explosion in Hood's verse, "did not give a sign of a return to sensuality." The judge ultimately gave him "one month," probably with the intention of having him de-hypnotized by the prison surgeon. W. W.

**The Congress of French Alienists** which was held in Lyons last August under the presidency of M. Ladame was full of lively interest. A great variety of subjects was discussed by the large number of alienists present. The proposed new lunacy law excited a great deal of attention, but after it was thoroughly discussed, the Congress, on motion of M. Rebatel, unanimously declared itself in favor of the old law of 1838, provided certain imperfections in its details be corrected. A number of extracts of papers read, which will be found in another part of the ALIENIST AND NEUROLOGIST, have been taken from the excellent report in *Le Progrès Médical*, for August 15, 1891.

We commend the zeal and scientific work of our French brethren. T. D.

**Psychical Aspects of Surgery.**—Dr. John Chiene in his address in surgery before the British Medical Association, gives evidence of possessing a broad, comprehensive knowledge of the psychical aspects of surgery. He gives wise words of caution as to the method of examination of patients so as to least excite the feeling of dread. While admitting that it is often useless to extirpate cancer of the breast, he thinks it is sometimes justifiable in order to spare the patient the terrible verdict, "Your case is hopeless." The surgeon should consider well the mental effects likely to be produced by his decisions. Dr. Chiene, with singular keenness for a surgeon, has recognized the existence of the "phobias," such as syphilophobia, cancerophobia, etc., in which the disease is psychic.

It is most encouraging to find a practical surgeon who possesses such sound appreciation of the fundamental laws of mental physiology. T. D.

**Membership in the American Medical Association.**—This is obtainable, at any time, by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr. Richard J. Dunglison, Lock Box 1274, Philadelphia, Pa., sending him a certificate or statement that he is in good standing in his own Society, signed by the President and Secretary of said Society, with five dollars for annual dues. Attendance as a delegate at an annual meeting of the Association is not necessary in order to obtain membership. On receipt of the above amount the weekly Journal of the Association will be forwarded regularly.

**Golden Bullets.**—We have received from the distinguished author, Dr. Wm. W. Ireland, "GOLDEN BULLETS," a review of which appears in this number. "Golden Bullets" is an Eastern story of the days of Akbar and Elizabeth. The author is well known as the author of "The Blot Upon the Brain," "Through the Ivory Gate" and other well-received productions of his pen. He has a paper in this number of the ALIENIST AND NEUROLOGIST on the "*Insanity of Torquato Tasso*." "Golden Bullets" is a pleasing, entertaining story, written in that charming style for which the author is already famous.

**Illness of Dr. S. S. Schultz.**—We deeply regret to learn of the serious illness of Dr. S. S. Schultz, who for more than twenty years has been superintendent of the State Hospital for the Insane, at Danville, Pa.

## HOSPITAL NOTES.

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CLEVELAND ASYLUM FOR THE INSANE.—Dr. H. C. Elyman, late assistant physician at Athens, Ohio, has been appointed superintendent of the Cleveland Asylum for the Insane, at Cleveland, Ohio.

THE INSANE ASYLUM AT ALT-SCHERBITZ, in Saxony, has done noble work since it was opened in 1876. It has many features in common with the new St. Lawrence Hospital in New York. In view of the interest taken in the New York Asylum a little information concerning Alt-Scherbitz may not be amiss. Alt-Scherbitz, like St. Lawrence, is intended to accommodate all classes of insane and both sexes. Both consist of large numbers of small detached buildings, two stories in height. In the St. Lawrence asylum a number of these buildings are connected with each other by corridors. This is not the case at Alt-Scherbitz where all buildings are isolated. But the St. Lawrence asylum has been so fully described in the *ALIENIST AND NEUROLOGIST* for April, 1891, that we will not speak of it further here but will simply mention some interesting data concerning the institution in Saxony. It is comprised of the following buildings: steward's office, two observation and reception cottages for each sex, an infirmary for each sex, house of detention for each sex, a hospital, an observation station for each sex, *post-mortem* house, water-tower, kitchen buildings, laundry, twelve detached villas, five for women and seven for men, mortuary, brewery, sheep and cattle-house, superintendent's offices, assembly-rooms, house for officials, green-house, work-shops (3) for men and some dozen out-buildings, such as pig-sty, barn, etc., etc.

The group of buildings is picturesquely arranged along the river Elster in such a way as to suggest a comfortable village rather than an asylum. There are no formidable, jail-like buildings. There are accommodations for 700 patients, two-thirds of whom reside in the villas. It is estimated that one of these villas costs about \$350 per bed. The buildings are variously arranged to meet

the requirements of the many kinds of patients found in a population of 700 insane. The pavilions for the chronic insane contain about 50 patients each (one for each sex).

The best opportunities for engaging in labor are given the patients, so that 80 per cent. of them employ their time in such occupations as brick-making, tending cows, work on farm and in fields, labor in the work-shops, sewing, etc., etc. There is ample medical supervision, there being six doctors on the staff.

It is a credit to the success of Alt-Scherbitz that the new asylum for New York City at Islip, Long Island, has been extensively modeled after it. Alt-Scherbitz has been in operation long enough to place it beyond an experiment.

T. D.

DETACHED BUILDINGS FOR THE INSANE.—It seems as though this way of providing for care and treatment of the insane has commended itself to favor of alienists in this country more and more each year. The building of Kankakee marked a new era in hospital construction in the United States. Dr. Yellowlees could not refer to it as "another gigantic mistake." Kankakee accommodates 1,500 patients, 275 in the central building and 1,225 in the detached buildings, which number eighteen.

Willard asylum consists of a main building and twenty detached buildings and can accommodate about 2,000. Several mistakes were confessedly made in the erection of this plant. For instance, the central building should have had a capacity of only 350 instead of 600. The arrangement of the grouping was also somewhat defective. It was, at first, intended only for the chronic insane, but on account of the great pressure on the other institutions in New York it has been compelled to receive all classes. But it is adapted for general insane population or for the chronic insane.

The institutions at Toledo, Richmond (Ind.) and one in Dakota and at Kalamazoo, all have detached buildings. Kalamazoo has two large main buildings, one for each sex and some half dozen farms and cottages. Although Kalamazoo was originally built in the old style, all the additions made to its capacity in late years have taken the shape of the cottages or farms.

Two hospitals about being completed, that at Islip and that at Ogdensburg, are both being constructed on the detached building plan. Each of these will consist

of a large number of small, home-like, inexpensive two-story buildings.

Following the progressive thought of the day, the Lunacy Committee of Pennsylvania has decided to provide for the increasing number of insane in the State by the erection of a new hospital plant, which will consist of a large number of small two-story buildings, variously arranged so as to accommodate the various classes of patients. The Legislature adopted the committee's suggestions and the new plant, capable of accommodating 1,500 or 2,000 patients, will be erected at once. A wise incorporation of the best of Kankakee, St. Lawrence, Alt-Scherbitz, Willard and Gabersee would result in an admirable hospital.

The two principal objections to the detached buildings have been the difficulties in administration and of supplying hot meals. Without going into details, it will suffice to say that Kankakee, Alt-Scherbitz and Willard report little or no difficulty in this respect.

The cost, per bed, of the buildings of Kankakee was about \$575; Willard, \$825. The cost of the old-style asylum was about \$1,800 per bed. The new hospital for Pennsylvania is to cost \$600,000, or \$300 per bed.

T. D.



## REVIEWS, BOOK NOTICES, &c.

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GOLDEN BULLETS; a Story in the Days of Akbar and Elizabeth. By William W. Ireland, M. D.

"*Negue semper arcum tendit Apollo*," would seem to be a suitable motto for the learned author of the above book; for on various occasions, by way of relaxation, he has abandoned for the time the abstruse study of psychology and wandered into the fascinating region of romance and fiction.

Dr. Ireland is already known to the scientific world as one of the leading British neurologists and also as a copious contributor to psychological literature; his principal works being his treatise on "Idiocy and Imbecility and his "Blot Upon the Brain." The former is the standard work on the subject of which it treats; and the latter, being written in a popular style, is calculated to interest persons of culture beyond those interested in medical psychology, as the author dwells upon the mental peculiarities of European dynasties; and his chapter on the "Career of the Early Roman Emperors," as viewed through a psychological medium, is of great value to the classical and historical reader. His more recent work, "Through the Ivory Gate," embraces a series of historical studies of intense interest to the reading public generally.

"Golden Bullets," the work before us, is an historical romance, the scene being laid in India during the reign of the great Mogul Emperor Akbar and of Elizabeth of England. Its appearance is especially opportune at this juncture, when England and Portugal are striving for supremacy in Africa, for the story opens at a time when England and Portugal were trying to supplant each other in Asia. It gives a vivid picture of Indian life and Indian manners and habits at the most brilliant period of Mussulman rule.

Our story opens at a time when Portugal had been raised to the acme of prosperity by the discoveries of the celebrated Portuguese navigator, Vasco da Gama, the brilliancy of whose exploits in India was celebrated by the poet Camoens, in his "Lusiad:"

"Hail, glorious chief! where never chief before  
Forced his bold way—all hail on India's shore!"

In the year of grace 1598, eleven merchants met in the city of London to consult together about fitting out a ship which should be sent to seek a share of the trade with the East Indies, by which the Portuguese had gained such wealth for a hundred years—that is, since Vasco da Gama doubled the Cape of Good Hope and landed at Calicut in 1498. Portugal had now become incorporated with Spain, and as this latter country was at war with England, the English traders found the wares of the Indies so dear and so difficult to be obtained, that they came to

the conclusion that they must either want them altogether or go and seek them on their own account; thence the action of the above-named London merchants, who, on the 26th of August, 1598, despatched a ship called the Unicorn on the said expedition, an enterprise which culminated eventually in the formation of the celebrated East India Company.

The hero of the story is one Stephen Ashbourne, who, in charge of a cargo of tin, lead, quicksilver, cloth, etc., after a successful fight with a Portuguese ship, landed at the port of Surat, where he found that he had been forestalled by the Portuguese functionary, who lost no time in attempting to bring the new comers into discredit; for he went to the governor and declared that he was incurring the risk of war with the Portuguese by receiving and sheltering their enemies; that the English were no better than pirates who had only a part of a miserable island, principally inhabited by fishermen and that they had nothing to offer for trade save what they had gained by plunder. Here history seems to be repeating herself, for, after a lapse of 300 years, the same flattering expressions have doubtless been used in reference to the English on the eastern coast of Africa, by their kind neighbors the Portuguese colonists.

After some interesting details about the Jesuit Fathers—the early missionaries to the Indies—we are introduced to the great Mogul, Emperor Akbar, who, at the age of thirteen became heir to the territory round Agra and Delhi, and who employed his long reign in recovering the different provinces to which he had an hereditary claim. At the time of our story Akbar was ruler over the whole territory now known as the Bengal Presidency as well as of Cabul, Cashmere, Gujerat and Gwalior; and he was turning his ambition to subdue the princes of the south of India. Dr. Ireland gives the following graphic description of this Eastern potentate:

“In spite of the illogical traditions of his family he was humane and beneficent. Though a warrior and a conqueror, he was a just ruler and a mild and wise legislator. Though brought up in lusts he was polished and urbane. Excelling in athletic sports, he was yet fond of literary pursuits. He took little sleep and ate only once a day.”

Reared in the most fanatical religion, he was the most tolerant of rulers and his theological views seemed to be of the most elastic character; and the Fathers of St. Paul were led to believe that it was only the influence of his wives which prevented Akbar from professing Christianity. In all probability he never regarded particular forms of religion as of moment. “He once entered into the oratory of the Fathers, took off his turban and prayed in their manner. He then prayed in the Mahomedan and Hindu manner; and then rising from the earth, he said that God ought to be adored in all manners. For some years he indulged the hope of uniting all his subjects in one religion—a system of Deism, with moral precepts agreeable to his generous nature and a belief in the transmigration of souls.” Some little dispute having arisen upon a doctrinal matter between one of the Fathers of St. Paul and a Protestant, and the matter having been referred to Akbar,

the emperor remarked: "I see you have two sects in Europe which hate one another more than the Shias and Soonis. How comes it that you go to seek converts in foreign countries when you cannot make the people of Europe of one mind in matters of religion?" What a lesson some of the intolerant professors of the present day may learn from this philosophical so-called barbarian emperor! The siege of Ahmadnagar by the Mogul Emperor is described, the defense being directed by the Sultana, mother of the young King. The supply of bullets having been exhausted, this queen ordered the copper, silver and gold in her treasury to be converted into cannon-balls; and one of these bullets nearly cost our hero Ashbourne his life, for it was picked up by him, and on it was written, "Death to Akbar!" On this bullet being found on Ashbourne's person he was subjected to a severe cross-examination as how this compromising projectile came into his possession.

Amongst other characters a court physician is described, one Hakin Ali, who was esteemed as the Galen of his time; he spent 2,900 rupees per annum in giving medicine to poor people, who, however, accused him of being too fond of making experiments upon them. His religious views are thus described: "I have knocked at the door of seventy-two sects, but I find all emptiness within. I have tried the Hindu, the Christian, the Sain and the Farsi. They have all the same truth, as men can live on rice, or wheat, or milk, or flesh, or fish; for the principle of nourishment is hid under a hundred forms. There is no absolute religion. But why should we not take Akbar for our guide? He has extracted the good of many religions." This Mussulman doctor, amongst his other avocations, arranges a marriage between Ashbourne and an Armenian damsel, in which love affair "there was enough of mystery to whet curiosity, enough of poetry to gratify his dreams and enough of reality to satisfy his reason."

A grand durbar is described and we are introduced to a seraglio and to a zenana; but enough has been said, we apprehend, to show that "Golden Bullets" is a work of considerable merit. It is characterized by purity of style and elegance of diction and shows abundant evidence of the literary culture and scholarship of the author. Like some of Dr. Ireland's other works, it penetrates into the domain of historical psychiatry; and containing as it does, graphic details of the political, theological and domestic history of India some three centuries ago, it must necessarily command a large circle of appreciative readers.

F. B.

ADDRESSES, PAPERS AND DISCUSSIONS IN THE SECTION OF OBSTETRICS AND DISEASES OF WOMEN, at the Forty-second Annual Meeting of the American Medical Association, at Washington, D. C., May 5-8, 1891.

These papers, upon the branches indicated, are fully up to the usual excellence of those read before this honored body of America's leading physicians; therefore there is much to commend them to the thoughtful student, though we do not concur in all they contain.

In the first paper therein, upon "Rapid Dilatation and Curetting,"

by J. G. Carpenter, M. D., of Sandford, Ky., the author deplores the ignorance of many gynecologists in language which we would generalize to include all branches of the healing art. He says:

"The *ultima thule* is fewer and better practitioners, less number of medical students, fewer and better medical schools with enlarged hospital experience and instead of a three-years' course of study being compulsory, make it five years or longer, with abundant clinical or hospital experience and gynecology learned and taught before it is put into practice. Unfortunately only the minority of every graduating class have had proper clinical experience to begin practice; the majority seldom reach mediocrity; they start wrong, go wrong and end wrong."

Wm. B. DeWess, M. D., of Salina, Kansas, in a paper upon "The Relation of Gynecology to Neurology," writes:

"The influence of the unhealthy uterus and ovaries upon the development of the diseases of other organs of the body by virtue of the neuric forces through the intermeddling of the complex generative nerve-circle, the sympathetic and cerebro-spinal systems of nerves, is a matter which I am led to believe has received very little attention at the hands of physicians."

As evidence, he cites the fact that he mailed a carefully-prepared letter of inquiry to two hundred and fifty of the most noted practitioners of the United States and received responses from only fifteen. These he considers too limited in number and too meager with facts to be of any material value to science and therefore omitted them from his paper.

While the author may express the true cause for his not receiving more, as well as more satisfactory, replies, the literature of the subject will scarcely support him in this, as it has been pretty thoroughly discussed, *pro et con*; nor will it sustain the assertion "that a very large percentage of the neuroses are dependent upon local disease within the pelvis, is fully warranted," since the nervous system is more and more being recognized as the cause of perverted function, which may, and does, if long continued, result in organic disease of organs.

Perhaps we overlook the fact that neurasthenia, spinal irritation, hysteria, etc.—diseases that are by some mistaken for the results of female pelvic disease, are quite frequent in the male; "forgetful that the imponderables are great forces in nature, that a single mental stimulus to unstable nerve molecules will awaken many reflexes. We overlook the tyranny of woman's oversensitive organization and underrate the influence of nerve perturbations or of psychical disturbances."

Dr. W. A. Hammond does not consider hysteria in the female as caused from diseased pelvic organs.

Dr. Wier Mitchell (*N. Y. Medical Journal, Part Second*), as early as 1866, expressed grave doubt as to genito-urinary lesions being the cause of spinal disease, as was then the prevalent opinion, and considered them as the result or accompaniments.

In 1882 (*Annals of Anatomy and Surgery*, Jan. and Feb.) Dr. Landon Carter Gray, in a paper on "The Effects of Genital Irritation in the



Production of Nervous Disorders," expressed himself as believing it, at least, an uncommon occurrence.

Dr. Wm. Goodell, in 1887, wrote :

"The crying medical error of the day is, in my opinion, the mistaking of nerve disease for womb disease." We would, also, refer to an article by the same author in the *ALIENIST AND NEUROLOGIST* of January, 1890.

Dr. Willis E. Ford (*ALIENIST AND NEUROLOGIST*, July, 1887) and Dr. C. H. Hughes (*ALIENIST AND NEUROLOGIST*, July, 1888), refer to neural perversion as primary to organic disease.

Dr. W. W. Van Valzah (*New York Med. Journal*, Aug. 29th, 1891) writes thus of dyspepsia, whose sequel, he states, is frequently chronic gastritis : "Who would find the cause of dyspepsia must look beyond the stomach to the thin and impure blood, to the weak and tired nerve-centers. \* \* \* \* But the chief factor in the causation of dyspepsia—*always present, always active* (italics ours), affecting either secretion or muscular movement, or both, is impaired nerve supply. The great clinical masters have often noted the frequency with which dyspepsia occurs in the neurotic—an individual with congenital instability of nerve."

Another paper to which we would refer briefly is by J. S. Stone, M. D., of Washington. D. C., entitled, "Can the Gynecologist aid the Alienist in Institutions for the Insane?" To which we answer, Yes; so can the oculist, dentist and even the chiroprapist, for how much improvement can we expect in a neurotic patient when continually irritated by a painful local affection, whether it be the cause of the neurosis, the result or accompaniment? The fact that an insane patient recovers after the removal of some portion of his anatomy is not conclusive evidence that the local disorder was primary to the nervous derangement.

Dr. Ford, to whom we have previously referred, says he has operated upon many cases of lacerated cervix and lacerated perineum and "was struck with the fact that these nervous symptoms did not disappear until after the general health had become markedly improved and then they disappeared, if at all, in the same manner and under the same treatment that secured improvement in cases where there had been no laceration." We have seen recovery from nerve disorders follow an unsuccessful operation for lacerated cervix. The most intractable cases of neurasthenia in females we have ever seen had no recognizable local disease, though they were examined by general practitioners, gynecologists and neurologists of eminence. In a number of replies from superintendents of insane hospitals to the author's query : "Do you find any cases of insanity due to disease of the pelvic organs of woman?" the majority do not agree that insanity is often, if ever, caused by pelvic disease.

That local treatment of one or more organs which are secondarily involved and possibly organically diseased, the result of prolonged functional derangement, is frequently beneficial and sometimes necessary, we admit; but that such treatment is only successful in propor-



tion to the improvement in the nervous system is certainly sustained by the observation and experience of our masters. D. S. B.

ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES; a Yearly Report of the Progress of the General Sanitary Sciences throughout the World. Edited by Charles E. Sajous, M. D. and Seventy Associate Editors, assisted by over Two Hundred Corresponding Editors, Collaborators and Correspondents. Philadelphia, New York, Chicago, Atlanta and London.

Five more volumes for 1891 of this excellent collection of original contributions on medical and surgical subjects are on our table, aggregating one of the most practical and complete treatises on the topics of the time in current medical literature. Each volume has its special and peculiar features of value, the fifth volume being chiefly therapeutical, anatomical, hygienic, physiological and climatological, the third being largely surgical, in which a full share of space is devoted to cerebral and neural surgery. Diseases of the brain and nervous system occupy about half of the second volume, the latter half being taken up with diseases of the blood and spleen and uterine disease, infancy, childhood, growth and age.

Volume one discusses in a practical and entertaining way diseases of the lungs, pleura, heart, liver, intestines and peritoneum, the digestive disorders of children, animal parasites, urinalysis and diabetes, while about one hundred pages are devoted to fevers. Narcotic diseases, bacteriology, dermatology, ophthalmology, otology, etc., are included in volume four. The Editors' appreciation of neurological advance in the past year is shown by the space they devote to the progress made in the knowledge and treatment of nervous diseases. These books are gotten up in their usual attractive style and are convenient for ready reference.

PRICHARD AND SYMONDS IN ESPECIAL RELATION TO MENTAL SCIENCE, WITH CHAPTERS ON MORAL INSANITY. By D. Hack Tuke, M. D., LL.D., Examiner in Mental Physiology in the University of London, 1891.

In this interesting memorial *brochure* Dr. Tuke, the distinguished English alienist, pays a justly merited tribute to the life and services of two eminent pioneer English psychiatrists, Prichard, Symonds, Mayo and their colleagues discerned the light as it gleamed through darkness of their day—a light which ought to be so plainly discernible in our day that no student of mental aberration should fail to see it. Yet, of late years, there are still some who still see as through a glass darkly on the field of of psychiatry—blinded by their logic. They would reason this clinical fact out of existence, though every unbiased observer sees it. Insanity of the affective faculties is a fact. The impulses, the propensities, the passions, may lead the individual astray, from disease or in health and yet the reasoning power may appear to be intact. This was a true discovery in psychology and for it the name of Prichard and his colleagues and followers, not the least of the latter being the eminent psychological clinician Dr. Tuke, himself, deserve to be honored and remembered by the profession.

A CASE OF BRAIN TUMOR WITHOUT CHARACTERISTIC SYMPTOMS. By Gros. R. Trowbridge, A. M., M. D., Assistant Physician, State Hospital for Insane, Danville, Pa. Reprinted from the *Journal of Nervous and Mental Diseases*, April, 1891.

This is an interesting clinical record. We wish the assistant physicians of our hospitals for the insane would make more of them.

The existence of a morbid growth was not suspected by the writer, as there were no signs or symptoms pointing to such a condition, except the existence of epilepsy. We do not, however, agree with the author that it would be ridiculous in general epilepsy to suspect or diagnose a tumor in any particular part of the brain unless the convulsions were localized. In the partial epilepsias, it is true that the circumscribed phenomenon serves to locate the lesion, but so does the starting point of a general convulsion.

BULLETIN OF THE INTERNATIONAL MEDICO-LEGAL CONGRESS, held June 4th, 5th, 6th and 7th, 1889, at New York.

This is a valuable collection of interesting papers and other contributions to Legal Medicine by well-known and distinguished writers and workers in law and medicine. The volume also contains other data of social and scientific interest to the student of Forensic Medicine.

The valuable labors of Mr. Clark Bell, the indefatigable and enthusiastic President, stand out conspicuously in the volume before us and his industry and zeal have borne abundantly of good fruit, as this volume well attests.

LIPPINCOTT'S MAGAZINE for September is on or table, with its usual array of good intellectual viands suited to the varied tastes of its many readers, as the following Table of Contents shows:

Carlotta's Intended, by Ruth McEnery Stuart; Julia Marlowe (with portrait), by Alfred Stoddart; Where Love Hath Been, by Susanna Massey; September, by Bessie Chandler; Real People in Fiction, by William S. Walsh; A Murderer for an Hour, by Julius Chambers; Life, by Douglas Sladen; A Plea for Helen, by Julia C. R. Dorr; Thou or I, by Jeanie Gwynne Bettany; Derby Day on Clapham Common, by Thos. P. Gill, M. P.; Incense, by Clinton Scollard; Society in Different Cities, by Mrs. M. E. W. Sherwood; Love's Calendar, by Chas. Morris; Country Roads and Highways, by John Gilmér Speed; Encouragement for Poets, by Louise Imogen Guiney; Mrs. Van Brunt's Convert, by Raymond Driggs; No Tears for Dead Love, by Philip Bourke Marston; Notes from an Engineers' Camp, by Henry Collins; To a Cloud, by William Rice Sims; His Majesty the "Average Reader," by Edgar Fawcett; The Days that Are to Be, by J. K. Wetherill; With the Wits (Illustrated by leading artists.)

We cannot enter largely into an analysis of the contributions of the estimable home and tourist magazine as a purely literary journal could and should, but we may surely venture, we think, to present the following abstract of Mrs. M. E. W. Sherwood's interesting article on "Society in Philadelphia," as follows:

"Society in Philadelphia is very elegant: that word presents itself to the mind always. The women are beautiful and well dressed, but there is a different ideal of splendor from that of New York. Worth may dress both women, but the least observant eye will know which is the Philadelphian and which the New-Yorker. Homes have been perpetuated in the same family, and if they have removed the ugly wooden shutters they have not changed that broad and hospitable door-step and the deep comfort of the ample 'back building.'

"Philadelphia was better laid out for the preservation of the everyday house, with its sensible back alley for the grocer's cart and its cheap houses for the poor, than was New York. They had more room and they had two founders, William Penn and Dr. Franklin, who laid broad foundations. Both those worthies would be amused, perhaps scandalized, did anyone say that they might both be traced at a Philadelphia assembly of to-day, but they can be. William Penn was a courtier, in spite of his broad brim; Dr. Franklin was a beau and a man of society behind his 'Poor Richard.' Both knew the value of the iron hand in the velvet glove; both realized how great were the virtues of moderation, self-repression, economy, thrift; and both were remarkably fond of a good dinner.

"The modern Philadelphian is worthy of this fortunate ancestry.

"In this oldest and most aristocratic of our cities, some of the very noblest characteristics of a republic can be traced. There is no offensive ostentation or love of show. Very rich people do not live in houses so preposterously better than their neighbors. As it was well said of two of Philadelphia's best citizens, Mr. Drexel and Mr. Childs, 'no one could guess how rich they are, excepting by what they give away.' And yet there is no lack of a certain subdued splendor in the luxury of a Philadelphian. It is like that rich yellow of the Castellani jewelery, burnished and then deadened, that it may not overpower the gem whose glory it enhances.

"In such a town as this, filled to the brim with science, education, thoughtful and great men, physicians of eminence, lawyers of renown, noble and philanthropic women, conversation flourishes. The talk at a Philadelphia dinner is of the finest quality, made musical by a queer little Southern accent, which from the lips of a pretty woman is the most musical thing in the world. It might also be said to be the fashion to be poor, or at least in moderate circumstances, in Philadelphia,—a fact which commends it to many delightful people, who are overrun, distanced, driven out of New York, because neither their tastes nor their fortunes lead them to the competition which is now about the only excitement between the leaders of fashion, in a city where wealth is the only standard."—From "Society in different Cities."

THE JOURNAL OF COMPARATIVE NEUROLOGY.—The second number of this valuable periodical is received and with it the prospectus in which the editor indicates more specifically the place it will occupy in the field of scientific literature.

It offers to investigators an avenue for immediate publication, with full illustrations, the *Journal* being, in fact, largely iconographic.

One important feature is the list of current neurological literature, which the editor hopes to make complete and accurate.

While especially devoted to original investigation, each volume will contain semi-popular historical and controversial matter which will serve to adapt the technical work to the general reader.

While much of the space is, for the present, occupied with anatomical and morphological matter, the editor indicates his intention to devote an increasing amount of attention to physiological problems and to the accumulation of data as material for a comparative psychology.

The editor invites all observers to contribute facts having a scientific bearing upon the nervous or psychical activities of animals. It is intended soon to inaugurate a series of articles to constitute, when complete, a Laboratory Guide to the Study of the Nervous System, to which the attention of teachers is especially invited and criticisms and suggestions are solicited.

From its high order of merit and the fact that it is the only periodical having, so far as we know, the scope indicated, it should receive the support of all interested in comparative neurology.

The June number contains over a hundred pages of reading matter, with the following Contents:

Morphology of the Avian Brain (continued), by C. H. Turner; Notes upon Technique: Recent Investigations on the Structure and Relations of the Optic Thalami, by Henry Russell Pemberton; Contributions to the Comparative Morphology of the Central Nervous System (continued), by C. L. Herrick; Editorials and Recent Literature.

The subscription price is \$3.00 per annum. Communications may be addressed to C. L. Herrick, Editor, Cincinnati, Ohio, U. S. A.

D. S. B.

THE SOUL OF MAN; An Investigation of the Facts of Physiological and Experimental Psychology. By Dr. Paul Carus, with 152 Illustrations and Diagrams. Chicago, Ill.

This publication comes to us too late for review in the present number. A cursory view of this interesting work reveals a study of the physical basis of mind and a protest by the author against the materialistic view of the subject. Every contribution to this subject from thoughtful and observant sources, such as the book and subject before us, is worthy of attentive perusal, for, as the author states in his preface, "The psychological problem is the center of philosophy. The problem of the human soul is of most vital importance. Every practical work, every success in human life is a part of its solution."

THE FORTNIGHTLY M. D., to be conducted by Dr. Bransford Lewis, the former talented and accomplished editor of the *Weekly Medical Review*, is announced to appear on the first of January *proximo*.

We welcome the new journal into the fold and place it with pleas-

ure on our exchange list. Dr. Lewis has lately returned from Europe, refreshed, invigorated and equipped for the arduous work he assumes again in the journalistic field. We wish the success the editor's ability merit for it.

The Snook Herr Poisoning. The Official Investigation—Preliminary Examination. By H. M. Goodman, M. D.

Chorea in Relation to Climate, Especially the Climate of Colorado. By J. T. Eskridge, M. D., Denver, Colorado.

A Course in Microscopical Technology for Colleges of Pharmacy. By Dr. H. M. Whelpley, St. Louis, Mo.

Influence of Heredity in Producing Disease and Degeneracy. The Remedy. By Gonzalva C. Smythe, A. M., M. D., Greencastle, Ind.

Epilepsy. By Frank P. Norbury, M. D., Jacksonville, Ill.

Announcement of the Rachel College of Obstetrics and Nursing.

Cerebral Surgery. By Frank P. Norbury, M. D., Jacksonville, Ill.





## CORRESPONDENCE.

The following interesting correspondence from one of our esteemed collaborators, one of the talented staff of the Government Hospital for the Insane at Washington, D. C., should have appeared in the October number. It has come to light too late even for its proper place in the present number, but we cannot omit giving it to our readers as a supplement:

KARLSBAD, August 14th, 1890.

*My Dear Doctor Hughes:*

The work, the pleasures and the disappointments of the Tenth International Medical Congress, are now things of the past, and from this place where many of the delegates have come for rest, after ten days and nights of seeing, hearing and talking, mingled with almost endless goings and comings, I will endeavor to write down for you a hasty retrospective glance of the greatest assembly of members of the medical profession ever known.

The labors of the Executive Committee must have been very great, for the arrangements made to receive, accommodate and entertain the great number of delegates were complete and very satisfactory so far as I have been able to learn, although the strangers interested and taking part in the deliberations far exceeded in number the expectations of all those whose duty it was, in any way, to provide for guests. The general sessions were all held in the Circus Renz, a capacious structure, centrally located, with a seating capacity of more than 5,000, and with no telling how much standing room.

No doubt you have learned from telegrams to the daily press of the great audience that crowded the vast amphitheater on the morning of the 4th inst., and of the success of the opening exercises, of the applause that followed the announcement that almost seven hundred American physicians had registered, and of the cordial reception given to the French delegation, and the enthusiasm that prevailed when the multitude present learned that France had sent nearly two hundred representatives.

The seats, temporarily placed in the large arena, were reserved for the official dignitaries, native and foreign, many of whom were clad in the elaborate uniforms or rich dresses peculiar to the Service or Court which they represented.

The most modest but prominent person on the rostrum with Prof. Virchow and Doctor Oscar Lassar, was Duke Karl Theodore, of Bavaria, who withal is a good surgeon, and with his wife, who occupied the Imperial Box during the exercises, bestows much charity upon the poor of their province.

Conspicuous with these celebrated men was Doctor Hamilton, of Washington, D. C., Secretary of the Ninth International Congress; Doctor Billings, U. S. A.; Sir James Padget, of England, and Doctor Bouchard, of France; but the most picturesque individual of the occasion was the Hungarian delegate, Csatory. He was a man of magnificent proportions with semi-barbaric head and visage. He was clad in an indescribable beautiful suit of royal purple satin and gold. The clasp of his belt glistened with precious stones, and the hilt and scabbard of the great dagger that hung on his hip, were brilliant with diamonds. His huge legs were encased in yellow leather boots of medieval pattern, the wide tops reaching well up to the thighs, and as he ascended the step to the platform he "strode like a colossus." He delivered a neat address in German, which, owing to his powerful, but not unpleasant voice, was heard in every recess of the building.

The man who caused the greatest excitement and won the most applause was Doctor Baccelli, one of the Italian delegates. He delivered a beautiful address in well chosen classic Latin. He is an exceedingly handsome man, with head and face which indicate the intelligence for which he is celebrated. Owing to the high temperature which prevailed outside and which was increased by the great crowd in attendance, the address of Lassar was too long, while that of Virchow was exhausting. They will be better appreciated from afar. The entertainments provided were manifold, and the Congress, viewed from a social stand-point, was unquestionably a success.

The general reception given on Monday in the Park that surrounds the Art Exhibition Building, in the rooms of which the twenty-two sections of the Congress held their meetings, and the great entertainment given Tuesday

night by the city authorities in the Rathaus, were events never to be forgotten by those who chanced to be present. At the latter meeting, dear Doctor Virchow, at all times popular, was the particular hero of the night, and when shortly after twelve o'clock he was discovered making his way to the cloak-room preparatory to going home, he was taken up and carried to the most central portion of the great building, where he could be seen from the numerous halls, balconies and stairways by more than three-fourths of the six or seven thousand men present. When the crowd grew so dense that those who were carrying him could no longer walk, he was passed from shoulder to shoulder around the great open space. Meanwhile every individual in the building seemed to be shouting, singing or hurrahing as if he were in some wild woods, creating the greatest uproar I ever heard. The excitement must have been like some of the enthusiastic demonstrations occasionally created at large political meetings at home. Ladies did not attend the meeting in the Rathaus, but they were given their opportunity (I understand, for I left Saturday afternoon) on Saturday night at Kroll's Garden, an aristocratic summer evening resort in the large public park just beyond the Brandenburg gate.

No one can now estimate the value of the work of the Congress, but no one, however pre-eminent or lowly in the profession, who was present at the general sessions or took part in the work of the sections, could have gone away without experiencing satisfaction at having been there, or without having been influenced for good by the learned and scientific atmosphere that prevailed and which enveloped us while in Berlin, and if Professor Koch's promises or predictions with reference to the treatment of tuberculosis are verified, this Congress may prove memorable.

Some, indeed I might say much, disappointment was occasioned in most of the sections for want of systematic arrangements, for, in spite of the fact that Prussian military exactness was manifest in all the plans and works of the Executive Committee, there was a lamentable lack of executive ability evinced on the part of the committees of the various sections.

The section for Neurology and Psychiatry was apparently one of the best organized and working sections, and it, excepting the section for Pathology, was the only one that did any work on Monday. They met promptly

at eight o'clock in the morning, and transacted a good deal of work before they adjourned to go to the general meeting. I would like to tell you of some of the work in our section, but I cannot take time. You will have to wait for translations or the publication of the proceedings, but I must say that Professor V. Horsley, of London, was very properly shown more consideration than any one visiting delegate, and was afforded every opportunity to impart his knowledge of cerebral surgery.

The town authorities of Karlsbad and Mr. Mendelssohn, the American agent for the waters, have done much to make the visits of Americans here, pleasant. Notwithstanding their kindness, I am disappointed in the place, and think it very much over-rated, but I am told that the season has been a most unfavorable one, that the rainfall has been unusually great, and consequently it is cold, damp and uninviting. I don't know much about mineral springs, baths and summer resorts, and don't want to appear ungrateful, but some day I may be able to write a contrast between the old and celebrated springs of Europe and the beautiful but undeveloped places of similar character in the United States, particularly those of Old Virginia.

To-morrow we go from here to Munich, and from there to the Passion Play.

I don't take time to write many letters, but I may write you again before I return, perhaps from Rome, where the Medical Congress will be held in 1893.

Regretting your inability to be with us at Berlin, I remain, dear Doctor,

Yours truly,

A. H. WITMER.















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